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NEW PHASES
OF INDUSTRIAL MANAGEMENT

NEW PHASES OF INDUSTRIAL MANAGEMENT

An Assembling of Addresses given before Financial,
Industrial, and Educational Groups

BY

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NINETEEN HUNDRED AND TWENTY-SIX
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Preface

IN THE YEARS TO COME, the history of the Management of Industry in the United States in the post-war period, as compared with that of other great nations of the world, will be of exceeding interest.

One great result of the War was to enlarge the scope of the relationship of the individual to the State and to society. "Democracy" became a term liberally used in connection with both government and industrial organizations.

On the suggestion of many who have heard the addresses herein, and for the convenience of students of present-day industrial problems, this volume is presented.

The Author

January 1, 1926

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I.

Some Important Aspects of Our Industrial
Development

An address
delivered before the One Hundred and Fourteenth Meeting
of the Southern New England Textile Club
Providence, R. I., March 28, 1925

Some Important Aspects of Our Industrial Development

It seems to be characteristic of human nature to fail to appreciate at their proper value some of the most plentiful blessings of a generous Providence. Of these beneficences there is none greater than that of the material prosperity of our country, and it is on this subject that I address you as manufacturers in one of the greatest of all American industries—the textile industry. We have the good fortune to be citizens of the world's greatest republic of all time and the world's richest industrial nation as well. Accustomed as we are, to seeing things done in a big way, and engrossed, too, as most of us are, in a multitude of details and duties, we are inclined to appreciate fully neither the strength that is ours, nor the responsibilities that are imposed upon us to provide conditions that shall not only maintain, but increase, our industrial and national growth.

One of the great dangers of rapid growth is to take things as a matter of course. Each new era of development, whether in a business or in a nation, establishes new conditions that must be recognized and taken cognizance of, if progress is to be certain and continuous. Bigness by itself does not mean strength necessarily, especially if it is accomplished by too rapid growth. In fact, the opposite is most generally true. Things overgrown are usually weak and soft.

In the light of our tremendous growth in the past fifty years, we may very properly ask ourselves the question—"Are we, as an industrial nation, moving too fast?" "In our ascent of the heights have we climbed so rapidly that we are getting careless in making our footholds more secure as

the perils of a fall increase?" "Underlying our wonderful progress, what are the fundamentals that we must clearly recognize and to which we must adjust ourselves, if our paths shall continue upwards?" Let us review the growth of the United States in half a century from 1873 to 1923. The following data illustrate our amazing expansion:

	1873	1923	Increase %
Population	41,000,000	106,000,000	158
Wealth (real and personal property)	\$34,000,000,000	\$290,000,000,000	753
Per Capita Wealth	\$830	\$2,689	223
Money in Circulation	\$753,000,000	\$4,780,000,000	534
Bank Deposits	\$2,000,000,000	\$37,194,000,000	1,758
Savings Bank Deposits	\$802,363,609	\$7,579,794,000	845
Building Loan Assets	\$579,627,765	\$3,342,530,953	477
Imports of Mer- chandise	\$642,000,000	\$3,781,000,000	486
Exports of Mer- chandise	\$567,000,000	\$3,957,000,000	597
Value of Farm Products	\$2,000,000,000	\$8,730,000,000	336
Value of Manu- factures	\$3,000,000,000	\$44,000,000,000	1,366
Pig Iron Produced (tons)	2,560,000	40,000,000	1,462
Miles of Railroad	70,268	264,000	276

These figures are indeed bewilderingly large. Nothing could emphasize our own part more convincingly than the present annual value of manufactured products in the United States, \$44,000,000,000 in 1923, an increase of upwards of 1400% in 50 years. Closely associated with this stupendous increase is the production of pig iron, which is primary to our great steel growth—40,000,000 tons in 1923. And to handle our tremendous output of farm products and manufactured goods, we use 264,000 miles of

railroad, to say nothing of hundreds of thousands of miles of highways for trucks and vehicular traffic.

Of the outstanding lessons to be learned from our tremendous growth of the past half century there are two in which we are particularly interested:

1. We have become a highly capitalistic nation. While our population has grown 158% in 50 years, our wealth has increased 753%.

2. We have expanded to an astonishing degree as an industrial nation.

It is in connection with these two great fundamentals of our development that we, as employers, have an opportunity

OUR
OPPORTUNITIES
AS EMPLOYERS

to render to our country a service of the highest merit, and to industry an obligation of the most vital consequence. Specifically, I think we, as employers,

ought to be doing in a definite and determined way, three things:

1. Teaching facts about capital, investments, and economics generally to our workpeople.

2. Making capitalists among our workpeople by the establishment of Savings Plans, and by stimulating saving on their part.

3. Training foremen more definitely in the practice of business management, and placing upon them greater responsibilities for getting management results.

I do not suppose there is anyone among us who does not think these objects are indeed worth while, and their accomplishment in a practical way of the greatest value to industry and to the nation. The real question is, how can they be brought about? At the Crompton & Knowles Loom Works we have had some experience along these lines with grati-

fyng results. Indeed, our efforts in this field have yielded results of such consequence that we are convinced that this work represents the soundest kind of good business policy on the part of employers.

We have quite a comprehensive educational program at the Loom Works, designed not merely to give information to our employees regarding economics, but to provide our employees with an opportunity to get ahead, to learn more about the fundamentals of our business, and to enable us to see good men developing for higher jobs. In all these lines our educational courses have been giving effective results for several years. Incidentally, it has led to a practical promotion plan for ambitious men, because we have laid down rules that no new men can be hired in for the so-called "better jobs" until a committee, headed by the Superintendent, has gone over the records of our students to see whether or not we have already in our employ, those who are capable of filling the positions. Our courses cover :

Loom Construction, Weaving, Electric Motors for Weaving Machinery, Mechanical Drawing, Blue Print Reading, Pattern Making, Properties of Iron and Steel, Molding, Forging and Welding, Machine Tool Operation, English for Foreign-born, Civics, Mathematics, Business Law, Business Economics for Foremen, General Business Economics.

In our Economics Courses, of which we have two, one for Foremen and the other a general one, we cover such subjects as "Reasons for Business Depression," "Taxes," "Cost of Living," "Waste," and also "General Economic Problems" as well as some directly applied to the Loom Works.

It is in such courses as these that employees are enabled to get fundamental facts relative to capital that are never presented by the demagogue or by the socialistically inclined. If our employees could get more information along such lines as Mr. George E. Roberts, Vice-president of the National City Bank of New York has been publishing in the past few years, there would be much less railing at capital. It is in such courses as these that we can really define capital and demonstrate to our employees that many of them are capitalists, but they simply do not know it; that a capitalist is one who accumulates any possessions beyond current needs, whether those accumulations are represented by money in the bank, stocks or bonds, or in the form of a home or real estate, or other possessions. It is possible in such courses to cover the very interesting subject of the distribution of profits, or gain, about which there is so much misconception on the part of the ordinary individual, and to demonstrate, as the economists point out, that in the distribution of business gain, upwards of 75% goes as salaries and wages to employees who work, and 25% in interest and dividends to stockholders.

It is possible also to remove other misconceptions as to management's portion of profits. How often do we hear murmurings against the men who get \$25,000 or \$50,000 a year?

The distribution of income, taxes, etc., can be covered thoroughly, and where the course extends over many lectures, it can be developed logically and, thus, convincingly. Incidentally, if these courses are simply made a part of a general educational scheme, they attract no special comment from the employees as reflecting, perhaps, a feeling on their part that their employers have a special reason for giving such courses of instruction. Such courses in economics

should be conducted year after year, and experts obtained to cover each subject. In our courses in economics last year we had an average attendance of 150. This year, to date, we have in our course for foremen an average attendance of 65 and in the other course approximately 100.

After each lecture an opportunity is afforded for the asking and answering of questions, and of this privilege full advantage is taken. It is surprising what peculiar viewpoints exist among the rank and file on financial matters. I recall that one foreman had quite a set opinion to the effect that stock dividends were made because the law would not allow any corporation to pay more than 10% in dividends, and the stock dividend proposition was a scheme by means of which it was possible to pay dividends beyond this figure and thus evade the law. It took the speaker a little while to clear this up, but at least one hundred men got thereby a very lucid explanation of this matter at a time when newspapers were reporting stock dividend issues in every edition, and when a very general feeling existed that there was something entirely wrong about the whole subject.

The time would seem to be ripe indeed for educational work of this kind. In the past few years a large number of banks have been established by organized labor. This step of itself on labor's part will go far towards removing the prejudices that working people have held against capital. In regard to the second point, namely, that of making capitalists and stimulating saving among working people, I think there is no step that an employer could take in behalf of his employees that is accompanied by such gratifying results.

We have had a Savings Plan operating for upwards of six

years and at no time in the last few years have we had less than approximately 60% of our employees saving under our plan, which simply involves taking a stated amount per week from the employee's pay envelope, as agreed upon, and depositing same in one of the savings banks of the city, as selected by the employee. Through our Plan, which is the oldest payroll deduction savings plan in the country, and which has been made the basis of the Payroll Savings Plan of the American Bankers' Association, we know we have made a large number of capitalists. We know, too, from much experience with this plan that when a man accumulates a few hundred dollars for the first time in his life, he looks upon the world in a very different way from what he would have done when he had nothing. The socialistic arguments of the soap-box orator, that all the money in the banks ought to be divided up, do not appeal to him any more. He takes on a new and better outlook toward life, and is distinctly a better citizen.

Furthermore, even though a man cannot accumulate large amounts ahead, a plan of this kind keeps him out of debt. The man who is in debt and is being hounded is an easy victim for radical propaganda. Give a man a good outlook on life, and the sinister arguments appealing to class consciousness as against another class do not take root.

The tremendous increase in savings deposits in the past few years may indicate that there is no need of stimulating saving on the part of employees. Nothing could be further from the truth. For twenty years in connection with data pertaining to pension applications I have had considerable opportunity to find out the financial condition of workmen beyond the age of sixty and I have been impressed that so few have really saved anything. Government statistics likewise bear out this statement.

A Savings Plan does not even require to be effective that employees continue to retain all their savings in the bank. In the five years that our plan has been in operation we have deposited for our employees about \$1,000,000. During this time, however, we estimate that at least 20% of those saving have withdrawn sums varying from \$200 to \$1,300 for the purpose of building homes, paying mortgages, educating children, for hospital expenses and other emergencies.

We have between 1300 and 1700 saving regularly in our plan, depending upon the condition of business. From their own testimony, we know that a large proportion of these never saved before, so we have the satisfaction of having made a large number of them capitalists, and we know also that they are very glad to get into that class. Who can question the splendid leavening influence of these saner-thinking men among their less provident fellows in the community?

And it requires, to take care of all these accounts, just one clerk in our accounting organization.

An interesting and noteworthy tendency of today is the increasing ownership of business on the part of our work-people. Any increase in savings deposits on the part of our workpeople naturally increases their ownership of business. Such savings as are put in savings banks are invested in real estate and in approved bonds of utilities and other enterprises; that which goes into the commercial banks is used as loans to concerns needing more liquid capital, generally industrial enterprises in the community where the savings are accumulated.

Further than this, many concerns in the last ten or fifteen years have established the practice of selling their own

OWNERSHIP OF
BUSINESS BY
THE WORKER

Company stock to their employees. Among the conspicuously large concerns in the country which have adopted this method of stimulating corporate ownership on the part of employees are the following:

United States Steel Corp.	W. H. McElwain Co.
Bethlehem Steel Corporation	Liggett & Myers Tobacco Co.
American Multigraph Co.	Libby, McNeil & Libby
American Sugar Refining Co.	Strathmore Paper Co.
Gulf Coast Lines	Niagara Falls Power Co.
Lehigh Valley Railroad Co.	Swift & Co.
New York Central R. R. Co.	E. I. du Pont de Nemours & Co.
Pittsburgh Co.	General Electric Co.
Studebaker Corporation	American Tel. & Tel. Co.
Los Angeles Gas & Electric Corp.	American Woolen Co.
Procter & Gamble Co.	Lincoln Motor Co.
Commonwealth Edison Co.	Standard Oil Co.
Cleveland Twist Drill Co.	American Rolling Mill Co.
Eastman Kodak Co.	Dennison Mfg. Co.
Elgin National Watch Co.	International Harvester Co.
Goodyear Tire & Rubber Co.	Larkin Co.

Students of economics think the influence of this acquisition of stock on the part of employees in their employer's business is going to be of far-reaching consequence. At a recent meeting of the Academy of Political Science in New York, Thomas N. Carver, Professor of Political Economy at Harvard, featured this development as a very important part of the movement now prevalent in the United States that is tending rapidly towards a redistribution of property ownership.

A further interesting side-light on this question is contained in a report made to the Academy by Robert S. Binkerd, Vice-chairman of the Committee on Public Relations of the Eastern Railroads, who reported that between 1918 and 1925, 3,500,000 new corporate stockholders were added to the owners of basic industries of the country,

and that one-seventh of these, or 500,000, are employees of the companies whose stocks they hold.

In the city of Worcester alone in the past twenty years over \$4,000,000 worth of United States Steel stock has been issued to employees of the American Steel & Wire Company in three plants which have had an average of from 5000 to 6000 employees.

Similarly, the Bethlehem Steel Corporation recently reported that in its second annual offering of stock to its employees, 46,766 shares of stock were applied for by 22,400 of its employees. Last year 19,922 employees applied for stock.

How much of this tremendous stock interest remains in the hands of these workmen and their families is difficult to determine, but it is beyond argument, I believe, that a large percentage of it is permanently retained in their possession.

It is obvious that with this stock ownership movement gaining momentum constantly the next fifty years will see, as Professor Carver points out, a marked redistribution of property ownership in the United States. If the saving instinct of the working people of the country is maintained and extended, we are rapidly proceeding to an era where our wealth will be represented not by the autocracy of a few, but in large measure by the smaller amounts of a great number. And I think we will all concede that this latter situation is one that promises greater security and permanence to the nation.

Surely it is good business, and good citizenship, for employers to stimulate and encourage the making of as many capitalists as possible among their employees.

In the preceding discussion stress has been laid on the necessity of the educating of workpeople along the line of

economics, and the importance of their having ownership of capital. Beyond these, however, if we are to get ahead as an industrial nation, we must continue to be efficient. Indeed, it would seem that with increasing competition from the rest of the world, we must become more efficient.

Much has been done in the past ten or fifteen years in connection with the production problems of industry. This work has been, however, in my opinion, primarily along the lines of improving manufacturing methods, and has led to a super-development, so to speak, of what might be termed our staff organizations. Thus, we have seen established for the first time in our organizations, Employment, Personnel, Industrial Relations, Production Efficiency, Production Methods, Scheduling, Standardization, Simplification, Cost Investigating, and Time Study Departments, and a number of others, depending principally upon the size of the establishment and the extent of staff elaboration desired.

In this development of the staff we have not kept pace in the line, that is, the group including those in active charge of production, superintendents, department heads, and foremen. I think the next logical step in the improvement and increasing of efficiency in our operations should be in this field.

After all, the final result in the solution of our principal problems in manufacturing lies in the hands of the foreman. It is up to him to see that his men are contented and, therefore, the fundamental responsibility of maintaining good relations between management and men is his. In connection with developing quality of product, it is the foreman's attitude and application to the problem that makes for the proper viewpoint of the workman. The cost of output, as far as direct labor is concerned, is primarily under the fore-

man's supervision, and, to the extent that he makes the most efficient use of machinery and tools and increases output, so also, is a great portion of the overhead attributable to him. Furthermore, in the keeping of production schedules much depends on the foreman in the planning of his work, in his selection of workmen, and in infusing the proper spirit into them.

The foreman is, therefore, in our present scheme of industrial management of the most vital consequence. Have we done as much as possible in educating the foreman thoroughly as to his place in management? I think in entirely too many concerns, the foreman is nothing but a "gang boss." Overhead to him is a vague, indefinite thing that is associated with clerks and main office expenses. His idea of reducing overhead is to discharge the clerks in the main office, and possibly the officials. He does not realize that, after all, his own handling of the problems of his department, has much to do with overhead.

In an effort to meet what I consider a serious need in this field, we instituted a new departure in the handling of foremen at the Loom Works in the past two years.

We have impressed upon the foremen that in a large plant they are the "little managers"—and that if each foreman makes his portion of the business successful, then must the business as a whole be successful.

To the end of making this application as concrete as possible, we have figured out for each one his portion of the business, so to speak. Based on floor space occupied, we pro-rate to each foreman the value of plant, machinery, tools and equipment, and this with the direct labor and shop overhead, makes up their year's business. Thus, we bring to each one a definite conception of the financial responsibility that is in his keeping as a foreman. It is surprising

what a different appreciation a foreman has of his job when he knows the money value represented by it. We have a large number of foremen whose annual business volume, figured as just described, runs from \$100,000 upwards per year.

This method of financially rating each job naturally gives an unusually favorable opportunity for educating the foreman as to the problems of business management, including a knowledge of costs and simple cost finding, overhead, labor turnover, the importance of quality, the using of equipment and the planning of operating schedules so as to give the maximum of efficient service and the best costs.

Under such a plan the instruction given is interesting and concrete because such important matters are discussed in terms of application to the foreman's own job.

Our results over the past two or three years have been very gratifying. The foremen are appreciating the importance of these problems as never before, and moreover, they know definitely the part each problem has in their particular work.

We have found another great advantage of this method in that it provides a basis for rating our foremen on performance. Foremen require for the best accomplishment, the same as all other classes, incentive and reward. The disadvantage of a large business is frequently reflected in a foreman's attitude. He is apt to think, that no matter how good his work, he will not get full credit for it, at least he has a feeling that management is so remote from him that it does not know what he is doing. This method of ours does away with all of this because once or twice a year we have a summarized report presented to the General Manager covering each job and, based on this report, increases in foremen's compensation are decided upon, and the foreman's capabilities for further responsibility and promotion de-

terminated upon in great measure. A copy of this report on each department is also given the foreman of that section, and the various features of it are gone over with him by the General Manager and Superintendent and the committee that prepared it. Under each sub-head of the various classifications he is rated as his performance merits—either excellent, good, or subnormal. His meritorious records are emphasized and commended, the subnormal performances pointed out equally clearly, and a special effort is made to feature the lessons to be learned.

The importance of this particular phase of our efforts cannot be over-emphasized. A good foreman wants to have the management know his record and is willing to stand or fall on it. We have found it quite simple, with our existing records, to rate our foremen thus on performance. We have emphasized to our foremen, that, after all, they are the key men in the handling of the four great problems of management, namely, maintaining quality of product, getting out production, handling men, and making manufacturing costs.

In connection with quality, we rate our foremen, (a) on the number of customers' complaints that we receive on their work, (b) on the number of complaints made by our own shop inspectors on their work before it is sent out, (c) on the amount of scrap produced through spoiled or defective work.

In regard to production, our bases for judging the foremen are, (a) on the job earnings of the men, (b) on the machine efficiency reports, (c) the various schedules and promises on production.

In regard to handling men, we take, (a) the department's turnover record, (b) the accident record, (c) the attendance record, (d) the discipline record.

In regard to costs, the comparison is made of (a) depart-

mental value, (b) overhead, (c) savings in direct labor, (d) machinery repairs, (e) small tools expense, etc.

A comprehensive review each year of performance in these various groups, with comparison of the previous year's results, makes moreover a splendid summary that enables the foreman to see himself in perspective, so to speak, and to concentrate his future efforts in correcting his weak points.

Lest you think that the preparation of such a record entails a very considerable expense, I want to say that all the points just named on which we grade our foremen in their annual report are part of our regular routine information. This report simply means the compilation of the data by the year. In actual expense at the Loom Works it means about \$15 per foreman, and as we have 52 departments, we do this whole job for less than \$800 a year.

An encouraging characteristic of the present is the constantly growing conviction on the part of both employer and employee that the interests of both are identical. It would seem that the time is at hand when employers can exercise a tremendous influence in safeguarding and promoting the growth of industry and, indeed, of the country itself.

We should not neglect this opportunity, lest we receive the condemnation of the ages in that, like Nero, while Rome burned we "fiddled."

II.

Some Fundamentals of Modern Industrial Problems

An address
delivered before various Civic and Employee Groups
1923, 1924, 1925

Some Fundamentals of Modern Industrial Problems

To understand the industrial problems of today there is necessary, more than anything else, a sane appreciation of Capital and Capitalist. Unfortunately, these terms have acquired a very unfavorable meaning in the minds of many. They bring up almost automatically the idea of an autocracy of wealth and an autocracy, too, that considers the human side as of little or no consequence.

Of late, however, the real meaning of capital has begun to be appreciated—that capital is the wealth of the country and is the sum of everybody's savings, large and small. It takes the form of

1. Cash or money.
2. Bonds, securities, stocks, shares, etc.
3. Lands, buildings, plants, machinery, shops, stores, materials, etc.

From this definition, it will be seen that anyone who accumulates any possessions beyond current needs is a capitalist, whether those accumulations are represented by money in the savings bank, in stocks or bonds, or whether in the form of a home or other real estate, or other possessions. It must be apparent, therefore, that a nation such as ours is made up of a very large number of capitalists, large and small.

The gain of business goes to two classes, first, in the form of salaries and wages to the employees who produce the goods, and second, in the form of profits to the owners or stockholders of the business. The question often arises as

to whether or not employees receive a fair return of the profits of industry, and it is interesting to make comparisons as to the amount taken by each of the two groups. One of the noted economists of the country, Professor King, of the University of Wisconsin, in his well-known book "Wealth and Income of the People of the United States," points out that in the distribution of business gain, 75% goes as salaries and wages to the employees who work, and 25% in interest and dividends to the stockholders.

From this it will be seen that if all the profits that now go to stockholders were distributed among the workers, they would receive only one-third more than their present compensation. In this connection, however, it should be borne in mind that stockholders do not take their full share of profits out of businesses. It is the practice in good business to put a certain amount of the profits back into the business, in the way of making improvements and extensions to build the business up. This is the story of the growth of a very large number, in fact, of most of the businesses of the country.

The advantages of this course are obvious in that profits put to such use immediately make further gains and profits for both employees and owners and it is equally obvious that such profits, moreover, yield advantages to the workpeople greater than to the stockholders in exactly the same ratio as business gain is distributed, as just covered, namely, 75% to employees and 25% to the owners.

To stimulate owners of capital to allow their earnings to be used for such purpose, there must always be a profit, for if the profits to stockholders were eliminated or made negligibly low, there would immediately result a reduced incentive for possessors of savings to allow their money to be used,

and secondly, it would eliminate the great human desire to progress.

Another very frequent misconception in regard to the distribution of profits is in connection with the portion that

MANAGEMENT'S
PORTION OF
PROFITS management takes for conducting
 business in an efficient manner. Man-
 agement is in the class of employees
 and gets its portion from the 75%

which goes to those who work. Does management get too large a share of the 75%? Along this line, perhaps, illustrations as to the part taken by management in large corporations will be convincing. A large corporation needs high-priced executives and it needs, moreover, a large amount of so-called "system" involving relatively large numbers of high-priced men to operate and direct the same. Mr. George E. Roberts, formerly Director of the Mint, at present Vice-president of the National City Bank of New York, and one of the best-known statisticians in financial circles in the country, reports in connection with the United States Steel Corporation in 1918 that the average pay of all the employees, exclusive of high salaried managers and officials was \$5.33 a day. If all the salaries, however, of the higher officials were lumped together with the wages of all the workers, the average per person would then be \$5.38 a day. Or, putting it another way, if everybody were paid the same wages, from the President down, each employee would get \$5.38 a day, that is, the wage earners would obtain an increase of five cents a day.

Along similar lines, taking the great telephone company of the country, The Bell Telephone System, if all the salaries over \$5,000.00 a year were cut down to that figure, and the money thus saved distributed among the workers receiving

less than \$3,000.00 a year, the average pay of these workers would be raised 17 cents a week, or \$9.00 per year. Further, if no one in the Bell Telephone Company were paid more than \$3,000.00 a year, and the amount thus saved was distributed among workers receiving less than \$5,000.00, their pay would be increased 28 cents a week, or \$15.00 a year.

Is there anyone, even the most discontented worker, who would want to remove the incentive for good management and obtain as the result of it, an increase of a few cents per week, and that only for a very short time, probably, while the business was headed rapidly for the rocks and the workmen for the streets?

The statement is frequently made that no executive is worth, even in companies doing a tremendous amount of business, \$50,000.00 a year or more. The most unskilled of workmen that dig with pick and shovel in the ditch get \$25.00 a week or more as a weekly wage, and forty of such men would receive over \$50,000.00 a year. Yet who would think that the great executive who is the guiding genius of our great businesses cannot be worth, and is not worth, forty laborers, the total of whose compensation equals his?

The importance of fine management for the workers' sakes cannot be over-emphasized. The continuance of the payment of wages to workpeople is one of the essentials of good management, and various experiments which have taken place throughout the world in the past have demonstrated clearly the fallacy of eliminating the managers of business and setting up in their places those who are untrained and unsuited for the high responsibilities of management. The most disastrous experiment in recent years along these lines was in Soviet Russia. After most calamitous results, it was found to the workers' ruin, that management could not be displaced, and a return has been made to

the former system. The compensation of management follows the same economic law as governs the prices of everything that humanity wants and needs—the law of supply and demand. Management obtains high salaries because the qualities needed for the successful direction of business bring a high figure in a market where competition is keen for those whose ability makes for business success.

Another very common misconception among the socialistically inclined is not to give proper recognition to the importance of experience and ability in men. The acceptance of this false doctrine of so-called equality would be the basis for the leveling down of management.

Our whole experience in life is a practical contradiction of this theory, and in considering capital and labor it is basic that there are differences in men. Those of us who ride on the railroads feel that we want the finest of experience and requirements for the job in the engineer who drives our train, and we would never think that the fast 20th Century Limited could be just as well operated by an inexperienced engineer as by one who is selected through long service and fitness tests for this important task.

We would feel, if we were sick, that no physician or surgeon was too good for us.

We would not want to ride in an automobile that was put together by a lot of amateurs, nor would we feel that we could equal the masters of the world in painting a picture or building a cathedral.

In the language of our Declaration of Independence we all have an equality in the right to life, liberty, and the pursuit of happiness, but we do not have an equality of health and brains.

Sometimes the impression is obtained from occasional reports of large incomes on the part of some that if incomes were more evenly divided, the wealth of people as a whole would be materially increased. Here, again, Mr. Roberts, quoting from the 1917 report of the Commissioner of Internal Revenue, points out that if all incomes above \$5,000.00 a year were cut down to that figure, and the amount thus saved divided among the people of the nation, it would give to each person only \$44.06 a year more, and if all the incomes above \$2,000.00 were levelled to that figure, and the excess above \$2,000.00 divided among the people of the country, each person would receive just \$68.33 a year more.

Would it be worth while for these small increases, to paralyze the incentive and effort that lead to higher individual incomes?

In the consideration of the fundamental problems of capital and labor, it is well to understand the part that labor plays in the establishment of wealth and the value of it. The primary source of practically all wealth is the earth. Metals, lumber, food, textiles, come out of the ground. Even wool and meat depend upon the earth.

The basic cost of our raw materials is essentially labor. The pig iron that is the basis of our iron and steel business has its beginning in the ore that is dug out of the earth, is carried by conveying apparatus and railroads to the furnaces or to ships in the harbor ports, thence transported, as in this country, to harbor ports, in, say, Ohio or Pennsylvania, is conveyed by train to the great storage piles adjacent to the blast furnaces, then handled through the blast furnaces with other raw material, and comes out at the bottom of the furnace pig iron, thence to be shipped all over the country.

The principal cost of pig iron is, therefore, labor, both skilled and unskilled—skilled in regard to the experts who guide the trains and ships and oversee the splendid machinery, and common labor in the actual mining, transporting and melting operations. The cost of this pig iron is thus a function of the labor and expense necessary to produce it.

While the cost is a function of the wages paid in getting out the raw materials, it is also dependent in great measure upon the methods used by capital in the producing and handling of this raw material. If this ore had to be dug out of the ground by hand, transported by oxen hundreds and even thousands of miles, if the blast furnaces were small and inefficient, the cost of a ton of pig iron would be prohibitive, as we view figures today. However, on account of the splendid employment of capital in the way of mining machine equipment, wonderful railroads, superior ships, ideal lock equipment in the Lakes, marvelous overhead cranes, and blast furnaces of tremendous capacity, we have not a prohibitive cost, but a fair cost—in the case of pig iron at the present time less than \$25.00 a ton at the blast furnace.

All this wonderful accomplishment could not be carried out if there were not a combination of efficient labor and willing co-operative capital working together.

It will be seen from the above that to the extent that labor is efficient and that capital is wisely and efficiently expended and directed, will we have low costs.

A common fallacy among wage earners is that a high wage in itself means prosperity. Within the last few years,

FALLACIES
REGARDING
PRODUCTION

however, it has come home more and more to working people that it is not so much a case of what is in the pay envelope as what the pay envelope can buy. If wage earners can save a portion of their pay beyond the expense of

living and contribute this to the capital of the country, the working man and the country are going to gain tremendously by it. If, however, the purchasing power of the wages is such that all of one's earnings must go for living expenses, then indeed there is no material advantage in constantly rising wages.

Much has been said by economists as to the need of more production. The worker, realizing that depressions come every so often, is at first inclined to feel that if he should increase his production, and thus lower the basic cost, he would be working himself out of a job all the sooner.

A short time ago Secretary Hoover told the members of the United States Chamber of Commerce that if people were only consuming the same things that they were consuming just ten years ago, approximately 30% of the industries of the country would have been shut down in the last couple of years. The average person is using values from 30 to 40 times what was considered necessary for living in the time of George Washington. Lower production costs mean that more people will take advantage of those costs. There will be greater satisfaction of human wants and there will be greater progress.

A review of the growth of the United States in the last fifty years is a most convincing proof of the increase of opportunities for all in this country, and likewise proof of the necessity of the best of relations between capital and labor, if we are going to continue to progress. The following figures, as between 1873 and 1923 illustrate clearly our amazing growth:

	1873	1923	Increase %
Population	41,000,000	106,000,000	158
Wealth (real and personal property)	\$34,000,000,000	\$290,000,000,000	753
Per Capita Wealth	\$830	\$2,689	223
Bank Deposits	2,000,000,000	37,194,000,000	1,758
Savings Bank Deposits	\$802,363,609	\$7,579,794,000	845

It will be apparent that our population is not increasing nearly so fast as capital, which means, of course, that the position of labor has been constantly improving. Under such conditions, the tendency of wages must naturally be upwards, but it must be remembered that if labor does not become more efficient, with constantly increasing wages, there will be less opportunity for the increase and expanding use of capital.

Another gratifying tendency of the times in this country is the increase in the ownership of our businesses by the workers. Any increase along this line means, too, that the worker must save a portion of his wages so that the portion saved may be invested as capital in business and property. The owners of a large number of the big business firms of the country, instead of opposing employee ownership, have encouraged, through favorable purchase terms, the acquisition of ownership interest on the part of their employees. The tremendous growth in this field in the last quarter century is attracting the special attention of economists, who are watching eagerly the changed conditions that will be brought about by this redistribution of property ownership.

I think it will be quite apparent from the preceding that what is needed more than anything else in the industrial world today is friendly, intimate, and sympathetic contact and understanding between capital and labor. We need enlightenment on the part of both employers and employees as to each others' problems. We need common sense and we need mutual confidence.

OWNERSHIP OF
BUSINESS BY
THE WORKER

NEED OF THE
WORLD IN
INDUSTRY TODAY

Of these three essentials, perhaps, the third is the most important. From confidence there is developed team work and effective, constructive up-building. From lack of confidence develops the power of force, and in our relations, the operation of hatred, vindictiveness, and discord.

Force has not been effective in the whole history of civilization in bringing lasting peace to the world, and if peace has not been brought by force between nations, it can hardly be expected that force, and the agencies of industrial war, can bring industrial peace.

The importance of the appreciation of the great fundamentals is of more consequence today in handling our industrial problems than ever before. We are the foremost nation of the world in production and we are the most prosperous nation as well. The world will be competing against us for generations to come and the brains of the rest of the world may be devoted to taking some of our prosperity away from us.

The day of necessity on the part of both the worker and the employer for a fundamental appreciation of basic facts in connection with production is at hand, and to the extent that employer and employee establish their relations on these basic facts will we grow and become greater.

III.

Establishing Contact between Employer and Employee

An address
delivered in the Industrial Management Course, Graduate School
of Business Administration, Harvard University
November 10, 1922

Establishing Contact between Employer and Employee

The past few decades have seen a tremendous growth of our country's industrial power. In this period there were created great combinations of industrial strength. The years 1898 to 1903 were particularly conspicuous as an era marking the formation of great consolidations in industry, the most noteworthy of which was the United States Steel Corporation.

RECENT INDUSTRIAL DEVELOPMENT

While the extraordinary industrial expansion of this period offered much in the way of considerable practical advantage in the reduction of costs, the elimination of disastrous and unintelligent competition, and the improvement of product and methods, it nevertheless introduced some evils, not the least of which is related to this discussion, viz., absentee management.

In the days of small manufacturing establishments contact was necessarily close between employers and employees. The owner of the business knew what all the men in his employ did—he could call all the men by their first names—he knew their families, and they looked upon him rather as an intimate friend. In the company with which I am associated, thirty years ago the daughters of one of the owners served oyster suppers to the men when they worked overtime, and when the owner went to his winter home in Florida he sent each of the older employees a box of oranges. Today our older workmen still talk of those days, and while they appreciate that things must necessarily be different now when the number of our employees runs up into the thousands, nevertheless they feel there was something unusually

fine that has been lost in the years that have passed since then.

Coincident with the industrial growth of the past generation has been the change in the character of business ownership. The corporation has taken the place of the private owner. Private or family proprietorship of businesses has been superseded by stock ownership. Thus today the actual ownership of our large industrial establishments is widely scattered. The owners are represented by a board of directors, usually elected annually, who supervise and direct the management of the business. Strictly speaking, therefore, the human element in present-day industry functions chiefly through "management" and "employees."

Today, then, in industry we have the problem of holding on to all the advantages that the expansion of the past years has brought forth, and yet adding to them that invaluable thing that has been lost, viz., intimate and friendly contact between management and men—between employers and employees.

I am one of those who believe that there has been no unfortunate evolution in the thought of management leading it to unsound views as to the rights and privileges of a workman, either as a human being or as a vital factor in industrial production. We hear much of "soulless" corporations from the uninformed, and that the workman is merely a cog in the wheel of industry. On the contrary for some time past management has realized exceedingly well that the most serious drawback of recent industrial development has been loss of contact with the employee, and no better proof of this attitude on the part of management can be seen than in the almost "feverish" attempts it has been making in the field of so-called personnel relations to establish once again the human status that characterized American industry of a few decades ago.

THE NEED OF CONTACT

- a. From the Standpoint of Mutual Self-Interest of both Employer and Employee :

Contact is important, that the policy of each in regard to the other may be based on fact. A study of many strikes and lockouts clearly shows that much of the trouble between capital and labor, so-called, is due to misunderstanding between the employer and the employee. Indeed, a lack of understanding, or a misconception of the basic facts which govern the attitude, methods, or policies of one side toward the other has been responsible for many of the most serious conflicts in the industrial history of our country. Thus, this lack of contact has been responsible for economic losses that are almost immeasurable when expressed in dollars—while in distress and sufferings, its dire effects have been veritable plagues to millions of humanity.

- b. From the Standpoint of Industry itself :

A strike certainly represents a serious and costly phase of industrial warfare. Out of warfare sometimes comes good, but the price paid for the advantages that come out of war is usually exceedingly high, and after every strike one cannot help wondering, after reviewing the terms of settlement, why an agreement could not have been reached between the contending parties without resorting to force. Strikes, like every form of warfare, leave scars that simply cannot be obliterated, whether they be black pages in the history of the country, incident to the ravages of unrestricted human passions, the development of bitter hatred among men, or the permanent crippling of industry

itself. A serious strike is a violent blow at the very stability of industry. Profit sheets very frequently reflect the effect of a bad labor disturbance long after the settlement of the difficulty. Another phase of very serious injury brought about by strikes, and one which is felt long after the settlement, is the breaking down of splendid organization lines which have taken years to build up. Years of application in even the simplest occupation develop an experience in the worker that cannot be quickly replaced. Turnover, always costly, is unusually so when "experience" gives way to "inexperience."

c. From the Standpoint of the General Public:

In the past few months we have had an excellent opportunity to see that serious strikes affect a very large and important third party, viz., the public. The strikes in the bituminous and anthracite coal fields and in the transportation lines of the country make it appear that it is about time this innocent third party itself should do a little "striking" against "strikes." The loss to the public of serious general strikes is almost incalculable. Mr. J. G. Bradley, former President of the National Coal Association, states the recent strike in the coal mining industry caused a total loss of \$1,190,000,000.00.

The industrial future of great sections of the country has been completely changed owing to labor disturbances. In New England we have only to see this sad effect in the shoe, cigar making, and textile lines. After all, the past history of any community along labor lines has much to do with the establishment of new industries or the expansion of existing ones in that section.

Some idea of the serious general effect of labor troubles upon the country at large may be determined from the following table, prepared from figures compiled by the United States Bureau of Labor Statistics, covering the years 1919, 1920, and 1921.

STRIKES AND LOCKOUTS IN THE UNITED STATES

Year	Strikes and Lockouts beginning in year			Workpeople affected		
	Total no. of strikes	Total no. of lockouts	No. of strikes	No. of persons involved	No. of lock- outs	No. of persons involved
1919	3,452	125	2,518	3,992,585	94	162,148
1920	3,193	61	2,025	1,417,456	46	17,736
1921	2,164	103	1,587	998,805	95	86,848

It is interesting to note that of the 3452 strikes in 1919, of which statistics are presented herein covering 2518, or 70%, there was a total of nearly 4,000,000 people involved. Furthermore, in 1919, the total duration of strikes was 60,715 days and of lockouts 2215 days, an average of 34 days and 37 days respectively.

In 1920 the average duration of strikes was 38 days and of lockouts, 69. In 1921, the average duration of strikes was 49 days and of lockouts 71 days respectively. It is probably not fair to consider the figures of 1920 and 1921, on account of the fact that the recent depression began to be felt about the middle of 1920, and increased rapidly in effect up to 1921, and continued entirely through the year. There is always a minimum of strikes in a period of depression.

From the above it will be seen that the cost to workpeople alone reaches a stupendous figure. Assuming an average wage of \$25.00 per week, or a loss of wages per individual of about \$125.00 for 34 days, the duration of the average strike in 1919, it is apparent that there was a loss to

working people alone of upwards of \$700,000,000.00, and this is based only on statistics of 70% of the strikes in that year.

From these gigantic figures, one cannot fail to reach the conclusion that probably our country's greatest need today is a common ground of interest, confidence, and understanding between employer and employee, or as it is more commonly expressed, between capital and labor. The interests of both capital and labor are identical—it is a platitude to say that one cannot get along without the other. That being the case, why should not both sides realize that there is no sensible reason for walls or barriers between them? Everybody naturally wants industrial peace. In the writer's opinion industrial peace can be accomplished only through real, friendly, and sympathetic contact between management and employees. The present era seems to offer an unusual opportunity for real accomplishment in this direction. A good start has been made in the effort of the past few years, but much remains to be done.

AGENCIES FOR EFFECTING CONTACT

Roughly the agencies employed to effect contact between employer and employee may be divided into two classes as follows:

a. Informal:

1. Shop papers, bulletins, pay envelope letters, etc.
2. Employment relations departments.
3. Foremen's and employees' clubs, organizations, etc.
4. Frequent visits of managements to places of their employees' work.
5. Freedom of workmen to visit officials on complaints, etc.

b. Formal :

1. Shop committees, stewards, etc.
2. Industrial democracy.
3. Regular meetings of foremen with management.

In regard to the first group, viz., shop papers, bulletins, pay envelope letters, etc., much is being initiated, but it is quite likely, too, that as an aid for effective friendly contact, this group can accomplish comparatively little by itself alone. Material, no matter how truthful, how simple and how understandable, issued through papers, bulletins, etc., is looked upon by workmen as propaganda and is discounted accordingly.

Employment relations departments, established in large number throughout the industrial plants of the country in the past few years, have done much to show the worker there was a better spirit abroad in the industrial world, a spirit of honest and sincere goodwill on the part of management today towards labor. Employment relations departments in many large corporations have made truly splendid records by eliminating abuses incident to the employment and discharging of men, by establishing safe and healthful working conditions, and thereby, demonstrating by performance to the employees that it is the spirit and aim of management to help them and protect them from injury and injustice.

Foremen's and employees' clubs are splendid aids in creating a spirit of understanding. The very existence of such clubs presupposes and demands an atmosphere of goodwill among their members. Management will do well to encourage and stimulate such organizations. Their social meetings present opportunities that should not be lost for management's getting acquainted with the workers. For many years I have taken the opportunity at the outings,

smokers and entertainments of our various social clubs of foremen and workmen to tell our people about our business and its problems, and to emphasize to them that their loyalty and co-operation are essential to its success. Their response has been invariably and increasingly gratifying. There is no question about the workpeople of any business wanting to see and hear the "big boss."

For the same reason, a most effective means of establishing friendly and sympathetic relations consists in informal and frequent visits of officials through the factories or workshops under their management. Such visits lead to closer acquaintanceship with both foremen and workmen. They demonstrate that the management wants to know working conditions first hand, and they serve to show the employees that after all even the highest officials are only human beings like themselves, and not bloated plutocrats wearing clothes patterned with dollar marks as the cartoons of the agitator often picture the leaders of industry. It is a sad commentary on the lack of appreciation of the opportunities presented in this simple way for friendly and intimate contact with labor, that in many industries workmen do not see their own officials from one year's end to the other, and would not know them if they saw them. Is it at all surprising that workpeople under such conditions should conclude that the interest of their employers in them is purely and entirely of a character that is based on financial considerations alone?

Closely allied with the foregoing relative to company officials visiting their workshops, and depending for its success upon the feeling that such contact engenders in workers that their leaders are interested in their welfare, is the freedom offered to employees of calling on their superior officers with complaints, suggestions, and the like. One of the most gratifying features of the writer's experience as a

managing official of an organization employing several thousand men, has been the freedom felt by even the humblest workman, in working clothes, and with the grime of toil on his hands, to visit him in his office, to tell him of some injustice, either real or fancied, and to ask his advice many times on subjects not allied with his work.

Of the so-called "formal" agencies for effecting contact between employers and employees, that of shop committees, stewards, etc., is especially characteristic of the closed, or union, shop, and therefore, has developed with the growth of organized labor. Under this plan "Collective Bargaining," about which so much has been heard of late, had its start. In connection with working conditions, and wage questions, principally the latter, committees of organized workmen confer with their employers, but unfortunately such contact has been established most frequently when a sharp issue as to wages, hours, etc., has been raised. The principal objection of employers to this form of contact between them and their employees is that the shop committees are appointed, or their appointment dictated, by the labor unions, and that as ordinarily only a small percentage of the members of a union shop attend the union meetings, the policy to be carried out in a shop where dissatisfaction exists among the workmen may be laid down principally or entirely by men who are non-employees of that establishment. Indeed, very frequently a national officer of the union is called in when an emergency situation exists and his viewpoint is exceedingly influential in molding the course of affairs.

In almost every strike of large proportions we see the statement frequently repeated that an employer would be glad to discuss the situation with a committee of any size from his own workmen, but not with outsiders.

This plan of contact, at least as far as its application up to the present is concerned, has not had the natural appeal that is essential to make it successful.

If the great problem of effecting harmonious relations between employer and employee is to be solved in a big way, some other plan than this must be evolved.

The great World War with its myriad of problems and complications crystallized this need. The demands of war production focussed the attention of the country on the necessity of closer relations between employers and employees as nothing else could possibly have done in so short a time. Labor disputes of distressing possibilities began to develop, and occupied the thought of public officials and of private citizens alike.

From the chaos incident to the hasty opinion and snap judgment of students of social problems, investigators, agitators, etc., as well as the sane, conservative and constructive judgment of Government officials, employers, labor leaders, and workpeople themselves, emerged a new plan of contact between employer and employee, which was launched under the name of Industrial Democracy. The principal stimulus for this new industrial experiment was supplied by the National War Labor Board, which in the settling of many labor disputes throughout the country set up new machinery of contact, and recommended it widely in the hope and expectation of its preventing the extension of labor troubles.

Comparatively quickly, therefore, this Industrial Democracy plan was taken up throughout the country and unquestionably it served in war times, for which it was especially needed, a very salutary and effective purpose. Its form was rather flexible, depending upon local conditions. Essentially, however, it comprised the setting up of committees of men

in each plant, elected by the workmen, who would meet like committees representing the management, for the discussion of problems incident to working conditions, wages, etc., the principle of collective bargaining under this plan being accepted by employers as basic. According to one method of employee representation adopted in many plants throughout the country, the form followed was that of our Congress. A Senate and House were established, to which the men elected their representatives.

As to how effective and valuable so-called Industrial Democracy will be, it is somewhat early to make predictions. The general depression of business, since the war has, of course, changed considerably the whole aspect of things in this field. Huge organizations in the industrial field built up during the war dissolved almost to the vanishing point, and with them the agencies set up for industrial representation. For instance, during the depression the Bridgeport plan of industrial representation, covering over forty plants, has not functioned as well as might be expected.

It would seem, however, that the industrial representation plan had gained a foothold. It is argued by some that the basis of this plan is far from ideal, since it is feared that the same trading, alliances, etc., characteristic of political democracy may likewise characterize industrial democracy. The argument is frequently made relative to these plans that we have no more reason for expecting that men will be elected in shops to represent workmen in these plants by any better standards than men are selected for political office. Men elected to political office are not subject, generally speaking, to fitness and intelligence tests, and the man who is elected to office is too generally the one who seeks the office.

However, while the industrial representation plan may not be ideal in theory, it may, in practice serve a splendid

need, especially in large organizations employing great numbers of men in plants or shops widely separated. In businesses of this type the industrial representation plan, in one form or another, may develop to be a practical solution of the lack of contact that exists today. It is noted that some of the largest employers in the country have been investigating the plan and apparently intend giving it a good trial. The very fact that large employers are seeking in a sincere and honest way to find some method of maintaining continuous and harmonious contact with their employees is a sign that gives great hope for the eventual successful working out of this plan.

Wherever possible, and especially in organizations where employee numbers do not run into huge figures, and after all, only a relatively small proportion of the businesses of the country have 2000 employees or more, I believe the logical agency for establishing real and sympathetic contact with employees is through the foreman. I have been having regular weekly meetings with our foremen and sub-foremen for many years, and my experience therewith has led me in an uncompromising and convincing way to the conclusion that here is the logical way to establish contact. And why not? Does not the foreman represent both employer and employee? I have impressed upon our foremen that they have a dual responsibility, equal in all respects—half to their employees and half to their employers. In the first place they owe it to their men to see that working conditions are satisfactory, that the wages paid them are in proportion to the amount of work produced and the skill required; in a word, to see that their men get treatment that is fair. Our foremen understand it is not only their right, but their absolute duty, imposed upon them not only by conscience, but by orders from their superiors, to insist, even to appealing

to the highest officials of the Company, that unfair conditions and practices, in their judgment, be corrected.

In one of the most serious strikes of which I have intimate knowledge, before the men in one of the large departments left their places, they went to their foreman for advice, only to be advised by him "to use their own judgment." Needless to say, they went out. This man represented at that time neither management nor men.

The foreman should be made to feel by his employer that first and foremost his is the responsibility to make for contact and better relations between employer and employees, and that the problems of production are secondary.

On the other hand, the foreman must be loyal to his employers, and he must see that misconceptions on the part of the workers as to the employer's policies and methods are promptly removed; furthermore, that the spirit and aims of his employer are made known to the men.

Through regular meetings between the highest managing officials of any plant and the foremen, all this can be accomplished.

If intimate, friendly contact with the foremen is established by the representatives of management, and if the policy of the management towards the employees is honest, fair and sincere, the foremen will soon realize it.

In the discussions of questions, the foremen can make clear the position of the men and themselves to the management, and they may have a say and a part in the handling of each other's problems.

In brief, the foremen will know the company's methods and policies first-hand; their attitude on any question or policy is based on accurate information, and not on rumor, which causes so much trouble in organizations where contact between management and men is very remote. Man-

agement must know promptly of unsatisfactory conditions developing among its employees—the employees must know the spirit, and aims, and hopes of the management and be in immediate and accurate touch with the steps being taken to meet the issues they raise.

In our great industrial army who better than the foreman can establish liaison between employers and employees? The day has come when the General Manager should meet face to face and shoulder to shoulder the foremen—the men who are in the midst of the workers from morning until night, and every working day in the year.

IV.

Opportunities of Employers in Improving Industrial Relations

An address
delivered in the Labor Problems Course
Graduate School of Business Administration, Harvard University
January 18, 1923

Opportunities of Employers in Improving Industrial Conditions

The past half century in industry has been marked by striking changes. These changes have affected men, machinery and methods alike. Among workmen, the principal features of the change have been, first, loss of contact between employer and employee, incident to the development of large businesses, and second, a marked evolution affecting the skill of workmen, from the well-trained craftsman of long ago to the so-called "operative" of today.

DEVELOPMENT OF
INDUSTRY IN
PAST FIFTY YEARS

In machinery the evolution has been to the development of automatic and high-speed machinery. These changes have been assisted by a remarkable progress that has been made along metallurgical lines in the same period. Beyond this, small tools have gone through a very considerable development from the old carbon steels of years ago to the modern high-speed and alloy steels.

In methods a similar radical development has taken place, incident to the rapid need of greater production, called forth by the growth of the country, and with this the introduction of various so-called "Efficiency" or scientific studies which may be classified roughly as the development characteristic of so-called scientific management. The basic feature of scientific management has been the detailed study of individual operations, the object being, through time studies, etc., to get each operation on the best possible production basis. Coincident with this development and its natural accompaniment was specialization.

This discussion shall deal in large measure with the effect of this industrial development upon workmen.

A half century ago the skilled workman in industry was one who had spent several years learning his trade. This trade apprenticeship was generally of four years' duration. The first year the apprentice would get, say, \$3.00 per week, the second year \$4.00 per week, the third year \$5.00 per week. He was obliged to spend long hours at his work and was frequently bound to his employer by agreements made between his parents and his employer. The training was hard, but thorough, and a young man received in this course a general experience with all the machine tools then existing, and with it all he learned in a practical way the properties of materials that ordinarily were handled on these machines. As the country developed, this method of apprenticeship training became less popular; in the course of some years, the demand for skilled mechanics far exceeded the supply that could be furnished by the old apprenticeship method, and a new type of workman appeared. This type was the so-called "machine hand" of a quarter of a century ago.

As would naturally be expected, the training that men of this sort, that is, machine hands, received would be less severe and less thorough than the old type apprenticeship training. In this period a man would be trained for a certain kind of machine in a relatively short time, say, a year or less. Thus, we had milling machine hands, lathe hands, planer hands, developed. Men trained in this fashion could handle anything that could be done on the machines on which they were trained, but nothing else.

With a still further development of the country and the still greater need of skilled workmen, there resulted a further specialization, which brings us to the period of today. Now, in a great many of our industries, we have a minimum of well-trained men among the workmen. This latest development led to the training of men for single operations, and

coincident with this development came the so-called scientific management of recent years, time studies, etc. Thus, it is not uncommon in our manufacturing plants today to have a man working at one operation on a machine who would be utterly incapable, without further training, of doing the next operation on the same machine.

Along the lines of development in machinery, one need only compare the automatic and high-speed machinery of today with that of a comparatively few years ago, to say nothing of going back 25 years or more, to see that there is practically no field in industry today for the type of tools that existed many years ago. In fact, many concerns have gone out of business in recent years owing to the fact that they have not kept abreast of the times in the improvement of machinery. The automatic screw machines of today of which six to twelve are taken care of by a single operator, turn out 60 times as much per individual now as could be turned out on the lathe of 30 years ago, which was the only method at the time by which such work could be done.

The introduction of so-called scientific management has also speeded up production per individual in a very marked way, as a result of a study of the causes of non-production and delays. Production Planning Departments of today are concerned mainly with the laying out of work and tools ahead of each machine so that the delays in production will be reduced to an absolute minimum.

The result of all this striking evolution to industry of the past forty or fifty years has naturally been towards specialization in the work, and the method of piece price or bonus payment for production has put a premium on a workman's turning out as much work as possible per day.

RESULT TO THE
INDIVIDUAL

While all this development has led to a striking decrease in costs, and increase in production, it has had one marked disadvantage, namely, it has led to the making of a monotonous day on the part of the workman. Human nature seems to rebel at doing the same thing all the time, and it is naturally to be expected that from the days of long ago when a workman did a variety of things in a day, and when he moved around from job to job, down the years to the present, where he sits in the same spot all day long and turns out the same article, or does the same operation on an article, with many at least, a natural result would be a chafing incident to the restraint, whether such chafing is conscious or otherwise.

It will be seen that the conditions of today in industry are not such as to make for broad training and experience on the part of the workman and by the same token, the opportunities for promotion which naturally depend upon training and experience are likewise restricted. Today in industry our Superintendents, Overseers and Foremen are principally men trained in the old school and they are of the type that is rapidly disappearing. Indeed, one of the great problems of industry in the future will be the getting of men who will be competent to take the place of those well-trained men of the old school that are passing out. Vocational training, about which so much is heard these days, is one of the answers to this demand.

A further loss to the individual incident to the specialization just described is the tendency that seems to have developed in the past few years for him to change jobs frequently. The turnover problem is a very serious one, and the loss due to it is measured not only by the individual, but by industry as well.

It has been variously estimated that the cost of breaking in a new man in any average manufacturing establishment

runs from \$50.00 to \$200.00 through waste of tools, spoiled work, lower average production, wear and tear on machinery due to inefficient care, as well as considerable expense incident to extra supervision required, due to everchanging forces. Some idea of the terrific loss that turnover means to industry today may be gained when it is realized that in the past few years, it was not unusual for manufacturing establishments to have a turnover of from 100% to 300% per year. In a word, the whole force employed is turned over from one to three times per year.

In an effort to meet these conditions, management has been much concerned for several years past, and one of the striking evidences of this concern is the development of so-called Service Departments connected with our industries.

The primary object of these Service Departments is to take cognizance of the new conditions in the hiring and discharging of men and in the study of working conditions, to make men more satisfied and to eliminate the turnover loss. In industry these service departments have done much, and primarily along three lines, first, in the fitting of the man to the job. Instead of the old "hire and fire" method, it is the practice now, through the proper functioning of service departments, to determine in the case of the applicant, from his experience, from his education, training and physical condition, as well as through an investigation of one's natural liking, what position the new man would fill to the best advantage, both to himself and to his employer.

Second, these departments are doing an excellent job in connection with the transferring of men from one position to another, when this seems advisable, either from the stand-

point of the employer or of the workman himself. Thus, many a good man, who otherwise would leave to seek a new position elsewhere, is slipped into a new place, where satisfaction results to employer and employee.

Third, these departments are also doing excellent work in the investigation of absences, resignations, and discharges. These investigations have led to employers knowing the reasons for men being dissatisfied with their jobs. Cases of improper or arbitrary treatment of workmen on the part of foremen have come to light. Unsatisfactory situations regarding employment and working conditions have become known and a knowledge of fundamental causes of discontent has thus led to a correction of the troubles. The seriousness of the losses incident to high turnover, and an appreciation of the fact that such turnover among workmen is closely allied with discontent for which modern industrial conditions are in large measure responsible, have prompted many concerns to take various measures in the field of so-called Industrial Relations for creating a better feeling between employer and employees. These studies in many cases have led to the adoption of various plans, many of which are excellent, but many of which also fall short of the purpose intended by them on account of so-called benevolent or paternalistic features. Others have fallen short of accomplishment of the object for which they were established because they partook in many ways of features that looked like exploitation of workmen. A great problem of employers has been as to what measures should be adopted to preserve the independence of their employees and at the same time to be of real value in meeting the problem.

The average workman resents the idea of charity in the relations of his employer to himself. He wants nothing he does not earn, and so any measures that partake of the

nature of benevolence on the part of employers are not fundamentally the sort upon which the soundest relations between employer and employee can be established.

On the other hand, betterment plans for the employee that frankly promise practical advantage to the employer as well are accepted much more quickly at their face value and go far towards convincing workmen that their employers are honest and sincere, and that there is nothing dangerous "behind the scenes."

Betterment plans will be successful if set up on the practical basis that, if workmen take advantage of the several means offered them to help themselves, they at the same time help their employer's business and industry generally. What are such plans?

The principal and most valuable ones are :

1. Savings or Thrift Plans through which workmen are stimulated to save, and through which also they are taught the real meaning of capital and the fundamentals of economics.
2. Health Service Plans by means of which workmen are assisted in improving and retaining their health.
3. Insurance and Pension Plans through which the workman's worry about "tomorrow" is reduced.
4. Instruction or Educational Plans through which ambition is stimulated, and opportunities are opened for the worker's advancement.

There are two kinds of plans in operation. The first and older type is that established for many years, where there is involved the purchasing of stock by employees in their employer's businesses. This has been conspicuously successful in many concerns.

SAVINGS PLANS

The second type is that where the workman is stimulated to

save, but where the disposition of the savings is left entirely to the individual. Of these two types the latter offers the greater promise because first, it gives the workman a greater degree of independence, both in the disposition of his savings, and secondly, as to his own position as a workman, in case for one reason or another he should feel it desirable to change his employment.

There are certain essentials to the success of any workmen's savings plan and the principal ones are that it should be simple, flexible, and offer the greatest safety to the funds accumulated.

In an effort to get a plan that would appeal to workpeople and which had such requisites, we established in 1919 a savings plan that involves the taking out of certain definite amounts weekly from the pay envelopes and depositing the same promptly in the savings banks of the city, the designation of the bank in which he desires to have his money deposited being left to the workman. This latter provision showed that the company did not retain the employee's money, even for exceedingly brief intervals, but on the other hand, that it was deposited promptly in the safest institutions that we knew of for such savings, namely, the mutual savings banks.

This plan, now in operation three years including a year and a half of depression, has been very successful. We have had an opportunity to see it operate in both good times and bad and it is the opinion of our workpeople that it is one of the best things that we have ever established for their good.

From an employer's standpoint we think we see as a result of our savings plan a better morale and a closer relationship with our men, due to their appreciation of this service. Anything along this line tends to a more contented force, and contentment means more efficiency, less waste and less turnover expense.

Our Health Service Plan was the result of the writer's personal experience in connection with a pension plan in a corporation having a large number of old employees. It seemed that if it were possible to improve the health of workmen, particularly at a time when they are getting old and at a time of life when failing health is frequent, this would be a service of unusual value to workpeople. It was particularly applicable in the Company with which I am associated, owing to the fact that we have a large number of employees over 50 years of age who have been with the Company a long time.

In the interest of making certain that our older employees were given occupations that did not impair their health, a health service was established for the older employees in 1917. This covered employees over 55 years of age. At the outset it was compulsory for men over this age to be examined from time to time. Because of the successful results during a period of two years, in 1919 the service was extended to all the employees of the Company, but made voluntary for those under 55 years of age.

The value of such a health service naturally is greatest to the older employees, and more advantage of this service has naturally been taken by them than by the younger employees. This service involves the physical examination of employees from time to time in our works hospital by the Company physician. After the original examination, and based on the condition disclosed at the initial examination, these men are summoned back to the hospital for re-examination from time to time at intervals depending upon the urgency of the case. At each examination the doctor gives advice as to diet, personal hygiene, and in some cases, medicine. Conditions that make for diminishing health, such as high blood

pressure, are discussed with the employee and effort is made, through having the patient understand the nature of his impaired health, to do what is best to meet his condition. Employees are examined at intervals from two months to one year.

At first some employees were suspicious as to the Company's policy as many naturally felt it would lead to men being demoted or disposed of or laid off on a pension before the age limit was reached. It was not long, however, before the men realized that none of these things was in the Company's mind, and that the Company's real interest was to conserve the health of its employees. As a result of this reaction these older employees became thoroughly appreciative of the service and acted upon the doctor's advice with splendid results.

Since October, 1918, 2519 examinations of older employees have been made under our health service plan. Of the total number examined, 288 showed conditions that required examinations at frequent intervals from two months to a year. Of these 288 employees, 72, or 25%, have shown in the last four years an improvement; 161, or 56%, have shown no apparent change, and only in 35 cases, or 12%, have their conditions become worse. In a word, 253 of these older employees have not lost ground in the last four years, and at a time, too, when the diseases and impairments incident to advanced years develop rapidly. It will be apparent, also, that in a large number of cases, namely, 25%, we have not only kept these men from growing older, so to speak, but we have distinctly improved their condition.

When it is considered that the average workman is able to get ahead financially but very little and that he is obliged to work frequently when he is not feeling equal to the task, a service that tends to reduce the workman's handicap along these lines is distinctly practical and beneficial.

Incidentally, it follows that such a service must be of distinct value to the employer. People with high blood pressure are subject to dizziness, headaches, etc., that reduce their capacity to turn out work, and naturally these impairments increase the danger of such men being injured.

This service, like our savings plan, helps a man to help himself. Anything that makes for health in a working force makes for better wages, more contentment, more production, and less danger of accidents, so that the advantages of such measures as just described are assuredly of practical value to employers, as well as employees.

In regard to the third agency for promoting good will, namely, the establishing of health and pension plans for relieving the workman of the worry of tomorrow, probably more has been done in this field than any other.

INSURANCE AND
PENSION PLANS

The Insurance Plan particularly has been very extensively adopted under the title of Group Insurance. Some idea of the extent of the Insurance Plan may be appreciated when it is realized that one of the large insurance companies operating in this field has issued to date between eight and ten thousand policies covering plants of various sizes from very small ones up to those employing many thousands of men, while another large insurance company has issued over six thousand of these policies. As there are several large insurance companies beyond these two that specialize to an extent in this type of insurance, it is apparent that there are covered under Group Insurance workmen to the number of millions.

Group Insurance has been increasing steadily for the past ten or twelve years, the first policy of one of the two companies named above having been issued about eleven years ago.

Up to date, the expense of practically all the policies issued has been assumed by the employer, but of late a question has arisen in the minds of many as to whether or not such measures would not be established on a sounder basis, and the whole insurance plan appreciated in a fuller way, if employees contributed to this expense.

As has been stated before, generally speaking, workmen do not want something for nothing and it seems to be characteristic of human nature to appreciate those things more that are obtained as a result of expense and sacrifice on the part of the beneficiaries. There seems to be little question as to the wisdom of employers obtaining insurance protection for their employees under the Group Plan idea because in so doing they are giving the workmen as a whole an advantage that the workmen as individuals could not obtain. Under this plan the employees of a plant as a whole are insured without physical examination and without regard to their age, the age of the employees being considered only in the establishing of the premium to be paid. When a company gives to its employees Group Insurance it is simply making available to them a purchasing power that the company has and that the employees have not.

The Group Insurance Plans vary in detail as among different plants, but substantially they are the same, in that employees are insured for a certain amount, generally depending upon the term of service, the greater the term of service of an employee the greater the amount of insurance.

When it is considered that so many workpeople are unable to accumulate much during their lives, and are, therefore, at death obliged to leave those dependent upon them without means, it is obvious that any plan that makes up for the deficiency is one of great practical value and should tend to relieve, to a considerable extent, the burden of

worry that a man must have concerning the possibility of his leaving dependents without any financial assistance.

Along this same general line, Pension Plans have been adopted, though not nearly to the same extent as Group Insurance Plans.

Up to date pension measures, like insurance plans, have been quite generally established on the basis of the employer paying the entire expense, and are, therefore, open to the same objection that has just been mentioned—that employees as a rule, appreciate those things more in which they bear a part of the expense.

Pension plans obviously do not cover as wide a field as insurance. The pension idea, as a general thing, does not interest the younger employees in a plant nor does it apply strongly in new businesses, or businesses that have been established within a few years.

The pension plan is undoubtedly an outgrowth of Governmental industrial pension provisions established in Europe for some time past which have been reflected in our own day in this country in many bills that have been before the various state legislatures on the same subject. Most of the pension plans in force in the United States have been established in the past ten years, their growth in the past five years having been quite marked.

Whether or not a company should establish a pension system is a question that requires most painstaking investigation and study. While most plans voluntarily established by employers state that the plan may be changed or discontinued at the will of the employer, still there is a tremendous obligation on the part of any company establishing a pension plan to see that it is maintained. Most pension plans involve large outlays of money, which are likely to become extremely burdensome unless in the establishment of

and maintenance of the plan, measures are taken to establish reserve funds for the protection of the demand against the fund, and unless, too, measures are taken to see that the conditions, both as to eligibility to pension and the amounts paid, are such as not to involve financial burdens that cannot be maintained. For these reasons, many employers have hesitated to establish pension plans.

In the company with which the writer is associated we have such a pension plan and I consider it an excellent provision,

1. Because the Company and its predecessors having been established for upwards of seventy years, we have a large number of old employees, who have spent the best part of their lifetime in the service of the Company.
2. Because it seems if a workman feels that by long service he earns a pension, he is going to remain with the concern and, if increasing experience on the part of the workman means increased value, then indeed, the Company receives its compensation in better morale, reduced turnover, and more efficient service that characterize a contented workman.

Furthermore, the establishment of a pension plan provides protection for the workman during his lifetime, for the reason that, after a man has served a certain number of years, a company is almost morally obligated to retain such men, even when they "slow down," otherwise the workmen would soon reach the conclusion that in order to keep the pension expense down, the company took pains to discharge its older employees. This reaction in itself would lower morale and tend to offset practically all the advantages that a company would naturally expect from the establish-

ment of such a plan. This, in itself, removes considerable worry from the minds of workmen because they dread the time that may come when their age and decreased efficiency may lead to their being out of work. This is of even more consequence in the light of a tendency on the part of many employers not to take in new men over forty or forty-five years of age, and then only after physical examination. Men thrown out of work after middle age and at a time when physical defects begin to appear, incident to their age, find it increasingly difficult to obtain new and satisfactory employment.

However, in view of our lack of experience in a broad way with pension systems in the country, conclusive data are not yet available, and the future prospects as to the general adoption of pension measures, are somewhat uncertain.

Of all the various agencies of great practical value established by employers for improving industrial relations, that in which the education of the work-
INSTRUCTION
CLASSES man is involved offers the most promising future, especially as this service provides special opportunities to the younger employees. By this, however, I do not mean the confining of industrial education to the teaching of English in so-called Americanization work, though this is very essential as a first step and upon it depends to a great degree whether or not successful results are obtained in other educational lines.

Night schools of one sort or another have been established for many years and are doing a splendid work. The opportunities for educational work in industry do not need to supplant these, but on the contrary supplement them. In any industrial community it is found that night schools are attended by only a small percentage of the industrial popula-

tion of that community. The reasons therefore are not difficult to find:

1. The stimulation for attendance at such schools must come primarily from the man himself.
2. Many men after a hard day's work, especially in the winter months, dislike leaving the comfort of their homes after supper to go to these schools. Furthermore, they feel somewhat strange in going to these schools because their associates are likely to be men with whom they are not intimately acquainted.

These objections do not obtain if instruction is conducted in connection with the man's work in the shop or factory. In the first place, if the employer is interested to improve the condition of his workmen, the stimulation incident to this encouragement is bound to be reflected in a responsive attitude on the part of many, and the splendid influence of example, too, on the part of one's fellow men has a lot to do with stimulating one to similar efforts.

Furthermore, at the shop or factory a man may attend a class in his work clothes, with the grime of toil on his hands, and feel that there is no unfavorable comparison being made between him and his associates.

Beyond this, a judicious policy on the part of the employer in selecting men for promotion from educational classes because of good work done or aptitude shown, will lead the workmen to see very clearly that any improvement in himself, due to his having greater knowledge, may be reflected practically in a better job and better wages.

In the light of the above, the Crompton & Knowles Loom Works established three years ago a certain number of instruction classes and while we have had only a brief experience with these, we are nevertheless pleased with the

results to date and feel that it is a line of endeavor that we will want to continue. The classes we have established are of varied character designed to meet various grades of intelligence and previous education on the part of the employee. They run from demonstration classes, so to speak, in which the workmen of our various departments are shown on a finished machine the work they do and the condition under which such work functions, to advanced technical classes on the properties of iron and steel, mechanical drawing, and advanced machinery construction.

It would seem that through courses of this kind there is a chance offered to the man who consciously or unconsciously is affected by the monotony of modern repetitive work. Under present piecework systems, workmen are obliged to do the same operation from morning until night, sometimes to the extent of thousands of pieces per day. While the financial reward for this work may be entirely satisfactory, there is nevertheless, with many, an unfavorable reaction due to the very monotony of the work itself. Very frequently a workman cannot identify the cause of his discontent as monotony, but we find it reflected exceedingly often when men leave, their only excuse for leaving being that they "want a change."

Generally workmen voice their discontent in one of two ways, either in a demand for more wages, or in seeking a new job.

It is amazing how many men in our turnover record are shown as leaving, not because of any dissatisfaction with wages or working conditions, but just because of something that they cannot themselves describe. Considering the extent of the loss that industry is undergoing at the present time, and has undergone for many years, due to turnover, an opportunity of this kind that gives to the discontented man a

field that will lead him to more contentment and to advancement is not only a contribution to the well-being and prosperity of the individual himself, but to industry as a whole.

There is a fundamental law in Nature to the effect that "action and reaction are equal and opposite in direction," and I am inclined to think it operates as well in the relations between employer and employee. If the employer is honest and sincere in his efforts to promote understanding and good will between himself and his men, and if such efforts take the form of helpful measures free from paternalistic tendencies, then will the response from the employee be in kind, and destructive antagonism will be supplanted by mutual interest and sympathetic understanding.

V.

Control Through Foremen

An address
delivered in the Industrial Management Course,
Graduate School of Business Administration, Harvard University
January 16, 1924

Also at
Massachusetts Institute of Technology
February 5, 1924

Also at
Worcester Polytechnic Institute
March 21, 1924.

Control Through Foremen

The tremendous industrial growth of our country has brought with it a remarkable evolution in the methods of conducting industrial affairs. This growth has been due not only to the natural increase of business incident to the country's expansion, but also to gigantic consolidations. The early part of the present century was particularly noteworthy, in that during this period great new combinations of existing concerns took place, conspicuous among which was the United States Steel Corporation.

In general, I believe our industrial growth, rapid as it was, has been healthy. The advantages of a large business in stabilizing conditions, in eliminating disastrous and unintelligent competition, in improving and standardizing quality of product, in the establishment of scientific methods through research work made possible by such large combinations, are quite generally recognized.

There was, of course, the natural reaction to the development of such combinations, which we saw reflected in a very general feeling against large combinations and so-called "trusts." This took the form of Anti-Trust legislation, the establishment of Government commissions to investigate questionable business, and a general popular agitation against large combinations and consolidations of capital.

Of late, however, we have begun to see a change in sentiment along these lines, and I believe that at the present time, much if not most of the influential opposition to so-called "big" business has disappeared. In the industrial field, the principal effects of the evolution of the past half century have been,

FEATURES OF OUR
INDUSTRIAL EVOLUTION

1. Loss of contact between employers and employees.
2. The development of labor-saving machinery.
3. The creating of specialists of employees, instead of all-round craftsmen.
4. The building up of special agencies to cover the various problems of industrial management, embracing the handling of men, the development and maintaining of quality of output, the direction and control of production and the study of manufacturing costs.

A brief discussion of the four points just mentioned will make the present situation clear.

In regard to the loss of contact between employers and employees, it almost goes without saying that the growth of industry took owners and management further from the employees. In the early days of industry we had private or family proprietorship, which has very generally given way to the corporation and stock ownership of today with owners running into large numbers, in the case of our large corporations, and widely separated geographically. The United States Steel Corporation has upwards of 200,000 holders of its stock.

Management, likewise, moved further from the employee. In the days of small shops and factories, the managers, or those responsible for running the business, were probably active foremen, and thus, in direct contact with their employees at all times.

Relative to the second point, namely, the development of labor-saving machinery, little needs be said in this discussion. As is well known, the progress that has been made in this field has been amazing.

The application of the third point, to wit, the creating of specialists of employees instead of all-round craftsmen may

need a word of explanation. In the earlier days of American industry, boys or young men who were going into industry "learned their trade." This consisted of an apprenticeship lasting usually about three or four years. While the apprentice was learning his trade, he received but little compensation, generally not more than \$3.00 a week for the first year, and increasing only by small amounts until the conclusion of his apprenticeship. These apprentices were trained on all the shop tools of their time in painstaking and thorough manner. With the growth of industry and the increased demand for skilled mechanics, this old-time thorough apprenticeship system failed to meet the new demands and there resulted a call for men not so broadly trained. In this phase of our industrial development men were trained on particular tools and were then called lathe hands, milling machine hands, planer hands, depending upon the machine upon which the training was obtained. This course, naturally, took a much shorter time and was likewise, obviously restricted in its scope.

With the increasing expansion of industry there was necessary a still further specialization to meet the demands of the past few years. Under this pressure, it was not even possible to give men intensive training of as brief a period as was necessary in the period just described. Men were brought into shops and put on single operations, on which they could be trained in a very short time. Thus, we have the so-called "operative" of today, who, trained only in one line, can do only one line. The tendency in the machine trades has thus been from all-round general training and broad knowledge, to intensive training and the most specialized restricted knowledge.

In regard to the fourth point, namely, the building up of special agencies to cover the various important problems of

industry, we have only to look at the organization chart of a modern factory, to see how responsibilities of various kinds, that in the small shop of former days fell on one man, the manager-foreman, are now divided up among several departments or staff bureaus that are only indirectly connected with the foremen and the employees.

In the days of small businesses, the foreman went to the factory gate and hired his own men. Now, he sends a requisition to the Employment Department. Where formerly the foreman was the entire judge of quality and was held entirely responsible therefor in his own department or section, now frequently there is an independent inspection department which may not even be under the supervision of the local plant officials. Again, in the small business, the foreman was responsible entirely for the quantity of production, production schedules, and the like. Now, in the larger concerns, there is an independent department charged with this responsibility, which is called under various names, such as Production Planning, Production Scheduling, Manufacturing Orders, and the like. Then, again, in the earlier days of industry, the foreman was obliged to be his own cost man, in fact, it was necessary for him to know thoroughly his costs, though they might be made up roughly, in order that he might likewise make a selling price. Nowadays, this function in large businesses is handled by an entirely separate and distinct department which, under one form or another, is called a Cost Finding Department or Cost Investigation Department.

With all this evolution, as just described, which has characterized the transition from small to large business in our tremendous growth, the foreman likewise changed. He became less of a manager. As many of the responsibilities

that are associated with managership gradually were transferred to others, he became more and more of a specialist himself, his field being more and more narrowed until today he is very generally considered only a production man and more or less restricted in that line.

OUR INDUSTRIAL EVOLUTION AND THE INDIVIDUAL

In a word, our industrial development has been strikingly along the line of new methods. The individual in the process has become less broadly trained and specialized to a very considerable degree.

Within the past few years we have become very acutely aware of some of the disadvantages of our industrial expansion as far as the human side is concerned, and no better proof of this could be found than in the efforts and progress being made in the field of so-called "personnel relations."

We have come to the conclusion that our splendid growth should not lead to autocracy in ownership and managership, but that on the contrary, workpeople should have an increasing influence in the determination of conditions under which they must work and live.

Plans in great numbers have sprung up in connection with the establishment of cordial working relationships between employers and employees. While many of these plans are apparently successful and filling the great need, I am of the opinion that here again we are apt to overestimate the value of a *method*. I believe that we should go back to the early principles of industrial management, and reestablish the foreman as he functioned in the earlier times.

I think the time has come when we should "foremanize" the foreman. In the establishment of intimate and sympathetic contact and understanding between ownership and

management and the employees, who is there that fits the need more logically than the foreman? He is with his men "FOREMANIZING" from morning until night and every day in the year, he is usually one of them, he knows the workmen's problems, he knows their moods, he knows when they are content, and he knows, too, if they are not. And he knows, too, or should know, if he is competent and conscientious, if the working conditions are fair and satisfactory. With this splendid background the foreman is in an ideal position for establishing and maintaining the soundest kind of relations between management and men, if he is made to appreciate thoroughly his responsibility. The foreman is first and foremost the representative of management. He has been picked out from among his fellows because his superiors recognized in him the qualities of leadership, and management representing ownership, in investing a foreman with the responsibility of looking after a portion of its property and business, has reposed a special confidence in him. He is the only representative of management in direct and intimate contact with the employees every working day in the year.

Under these conditions, why isn't the foreman management's logical contact with the employees—and the most practical and efficient contact if management would take the trouble and pains to get the right kind of foremen, thoroughly alert and trained to the full responsibilities of their exalted position?

Furthermore, who is better qualified to represent the employees before the management than the foreman? All the evidence we have as to the worker's desire in this country, at least, to run our businesses is distinctly that they do not want to tell management how it should conduct business.

The employee wants a friendly and practical contact with management whereby he can take up and have adjusted simply, quickly and fairly such matters in connection with wages, working conditions, etc., as are apt to come up from time to time.

If, through proper training methods, management would impress upon foremen and insist, as a part of their regular task, that they accept the responsibility for maintaining friendly and satisfactory labor relations with their men, and if management on its own part would accept the foreman's representation of his men at its full value, then indeed, would the problem of handling human relations in industry be simplified.

Nowadays, the foreman does not accept this dual responsibility, 50% to his employers and 50% to his men, simply because he has not been taught to accept it. In many concerns, the foreman feels it is not his job to represent either the management to the men, or the men to the management.

In my own experience, I have had a very satisfactory response on the part of a large number of foremen, who through regular weekly meetings with me have acquired this new conception of their responsibilities in relation to their employees and to their management.

Furthermore, I have had an unusually satisfactory reaction from our foremen in connection with the other important

FOREMEN AS
"LITTLE
MANAGERS" phases of job management, relating to
quality of output, production, costs,
discipline, and the handling of men.

We have developed a plan whereby we make out for each department an annual report, which shows each foreman his part in actual accomplishment from the

standpoint of costs, production, and shop performance generally.

These reports have been found also to furnish a good basis for rating foremen on results.

Hand in hand with such a program in stimulating the foreman to make the best of himself and his department, goes the necessity of instructing and training foremen.

INSTRUCTION AND TRAINING OF FOREMEN

In our training courses for foremen we cover, (a) managerial policies, (b) business economics, (c) technical courses, and (d) departmental costs and production methods.

Definite instructions on managerial policies are obtained through regular weekly meetings, which are presided over by the General Manager, and a portion of which each week is devoted to discussing the policies of the Company and the reasons therefor.

In the realm of business economics, we have a very comprehensive course of instruction lectures. Each subject is covered by an expert, and conducted as a forum, wherein full opportunity is given for the asking and answering of questions. The course this year consists of the following subjects:

1. General Economic Principles as Applied to Industry.
2. Relation of Production to Costs.
3. Labor Turnover and its Effects.
4. Machine Efficiency and its Relation to Wages and Production.
5. Overhead.
6. What Constitutes a Financial Statement of a Manufacturing Concern.

Thus, it will be seen from this course of lectures that we start with general principles of economics first, then take the man in industry, then the machinery, then the overhead, then we put them all together in a financial statement, emphasis being made in all these lectures as to the importance of the foreman in handling these subjects.

In our technical courses, we cover the construction of our machinery in fine detail. Lectures covering a course in iron and steel, which is basic in the manufacture of our output, are handled by our Laboratory, while there are various other courses that foremen may enter, as they desire, covering mechanical drawing, shop mathematics, machine tool operations, etc.

Relative to training in departmental costs and production methods, our foremen are given intensive instruction by experts from our Cost Investigation Department and our Production Methods Department. In this instruction generalizations do not predominate. Costs and manufacturing methods affecting a foreman's department are covered with the foreman in the terms of that particular department. As a result, our foremen have developed a splendid knowledge of costs and how they are built up and they follow their own costs very zealously.

One of the most hopeful signs of the times is the constantly increasing disposition on the part of business managements to maintain training courses for foremen. Many of the largest organizations of the country are conducting foreman training classes of wide scope. A corporation specializing in the establishment of training courses for foremen reports that through its group alone, over 900 firms have adopted foreman training in the last five years. The number receiving training through various forms of corporation schools must be large indeed. The idea of the impor-

tance of foreman training seems to have taken a firm hold in the last five years, and each succeeding year finds the conviction becoming stronger in management that through the foreman must come, in very great measure, the solution of our problems of management, not only those of production and costs, but those of industrial relations as well.

In military parlance, the "top sergeant" is considered by his superiors the keystone of the military structure. If the "top sergeant" is a good one the company is good, and vice versa. And so it is in industry—if the foremen of an establishment are good, so also is the company. Truly, the foreman is the "top sergeant" of industry.

VI.

Good Working Conditions

Discussion of
Clause 3 in the Proposed Code of Relations between Management
and Employees, as prepared for the Associated Industries of
Massachusetts, and as appearing in *Industry*
June 22, 1923

Good Working Conditions

The third clause of the proposed code of relations between management and employees has for its basis "good working conditions."

This term is an exceedingly broad one and admits of a wide variety of viewpoints, but if a workman were pressed for a short definition of what he meant by a "good" shop in which to work, he would probably say, in one form or another, "good wages, steady work, and opportunities for advancement, good tools, clean shop, with foremen and management who are human and have a real interest in their workmen." In a word, he would unconsciously divide the advantages of such a work place into three groups and in the order, too, in which he rates them :

1. Those referring to his financial well-being.
2. Those referring to his physical well-being.
3. Those referring to his mental well-being.

This is a logical grouping, too, and any discussion on the subject of good working conditions may well follow this order.

The first group of shop conditions, viz., those referring to the financial well-being of the employee—good wages, steady employment and opportunity for advancement, hardly needs elaboration in this article. Surely they speak for themselves and admit of no argument to the contrary.

1. FINANCIAL WELL-BEING OF THE EMPLOYEES

The workman wants the highest wage he can get, that he and his family may have the so-called better things of life, not merely physical comforts, but the opportunities for

cultural and educational developments as well. And no one will gainsay him the right of wanting high wages for such purposes. In fact, it is good American doctrine in the best sense of the word that the worker, the common citizen, should labor under such conditions and opportunities as to make this development possible.

It is a necessary corollary to the foregoing, too, to say that good working conditions necessarily must include "steady employment." The nightmare of the workman is unemployment. Whiting Williams in his excellent book "What's on the Worker's Mind" points out, after talking with large numbers of workers in various industries of the country, that the greatest fear the future holds for the average workman is that some day he will be laid off and will be unable to get another job for an insufferable period. This emphasizes the need of employers so planning not only their manufacturing operations but their plant improvements and renovating operations, as to level off the valleys of industrial depression. Plant managements will do well in times of maximum demand for workers to put off until the time of lesser demand, work that could be so handled, and set aside the funds to finance such work, since it generally happens that, when the time comes for advantageously carrying out such a program, the financial situation is such as to make it impossible.

The third point in the group of conditions affecting the financial well-being of the worker is "opportunity for advancement." In my opinion, employers have not realized their opportunity nor their obligation in this regard. It is one of the finest characteristics in a workman to want to get ahead. In these days, too, of specialization, where the workman is restricted to narrow lines in production, his opportunity to obtain advancement is necessarily less than

heretofore, when through a variety of work he had a greater field for displaying that he could think and plan, and thus show his superiors any suppressed or latent quality that he might possess. Now in many industrial fields his opportunity is principally along speed lines, involving hands and feet, rather than head work.

I believe, therefore, that if employers would offer educational opportunities to their employees, whereby men could prepare themselves for better jobs, this would go far towards improving the lot of workmen in the field of good working conditions.

Even in the teaching of English in shop Americanization classes, there is an opportunity that many employers do not appreciate. If a man cannot read and understand our language, it is certain that he is not as good a man as he would be if he knew our tongue. If a workman cannot understand the spoken or written instructions of his foremen or other superiors, he must necessarily be possessed of a timidity or fear that he may do the wrong thing, that surely does not improve his efficiency. Furthermore, if he cannot speak his employer's language, he has lost an opportunity for "contact" that is very important.

The writer's own experience for the past two or three years with Educational Classes in Machinery Construction, Mechanical Drawing, both Preliminary and Advanced, Blue Print Reading, Properties of Iron and Steel, Molding, Slide Rule Operation, Machine Tool Operation, Higher Mathematics, Civics and English for the Foreign-born, has proved that a large number of the employees accept this opportunity readily, apply themselves diligently and earnestly, and obtain much from it.

Furthermore, many employees have thus been able to show ability that the Company has been enabled to put to

better application than could possibly have become apparent in the particular work these men were previously doing.

Relative to the second group of advantages pertaining to good working conditions, viz., "those referring to the physical well-being of the employee," and included under the general term of "good tools, and clean shop," the following classifications may be made:

2. PHYSICAL
WELL-BEING OF
THE EMPLOYEE

1. Good tools with which to work.
2. Well-guarded machinery.
3. Clean and orderly shop, space around machines, aisles, passageways, etc.
4. Good natural light in day time, and sufficient artificial light of the right kind when needed.
5. Good ventilation.
6. Good cool drinking water in convenient locations.
7. Good toilet facilities.
8. Good and sufficient washing facilities.
9. Good locker facilities.
10. Good medical attention to accidental injuries.

In these days one would hardly argue to the contrary on any one of these points, yet the fact remains that unless a plant were laid out comparatively recently, many of these obvious advantages that appeal to a workman are conspicuous by their absence.

Items 1 and 2 are not especially characteristic of old equipment. New and up-to-date machinery and tools are not only designed to turn out production on a basis that means lower initial cost and high wages, but likewise are designed

to reduce the fatigue of the worker to a minimum and to safeguard his life and limb from the dangers of injury.

Item 3 operates in the same direction of physical comfort and safety. Furthermore a good workman naturally takes pride in a well-ordered and well-disciplined shop.

Items 4 and 5 obviously are necessary to reduce fatigue, and danger of accidents, to say nothing of safeguarding the worker's health.

The importance of Item 6 is apparent, and no work place would be classified as "good" by an intelligent workman at the present time that is not equipped properly with sanitary drinking fountains supplying cooled water.

Item 7 covers a necessity that unfortunately is minimized in many shops, even in these enlightened days.

Items 8 and 9, notoriously absent entirely too frequently, are not only necessary from the standpoint of the worker's health, but are essential to his respectability. We should be ashamed to send our workmen out into the streets and street cars with the grime of toil on their clothes and bodies so that their fellows would feel that they must avoid them to save being soiled. It lowers the dignity of labor to send the worker home to his wife and children with the grease and dirt of his work unremoved. Personally, I believe the employer should allow his employees a few minutes before closing time noon and evening in which to wash and change his working clothes, and I find that this privilege, granted in our own company, is appreciated most highly.

Item 10 is being taken care of quite thoroughly and liberally, through the continued efforts of employers to reduce the seriousness of shop accidents. The old-fashioned and dangerous methods of treating minor accidents, such as cuts, bruises, removing foreign bodies from the eye, etc., have now happily disappeared. Workmen would not fail

to classify any shop using the old first-aid methods as "behind the times," and an inferior place in which to work.

In the introductory paragraphs of this article it was stated that among other qualifications, a workman would probably define a good shop in which to work as one having "foremen and management who are human and have a real interest in their workmen." This is the basis for the third group of so-called good working conditions. Under such a definition, the following features may be classified:

3. MENTAL
WELL-BEING OF
THE EMPLOYEE

1. Reasonable working hours.
2. Foremen who are just.
3. Opportunity for fair hearing of grievances.
4. Contact with management.
5. Appreciation of long and devoted service.
6. Protection and aid in case of sickness and old age.
7. Supplying incentives for the welfare of the worker and his family.

Item 1 needs no elaboration. Workmen in all industries for many years have been seeking better hours and particularly in lines of work where the tasks are heavy and conditions such as to exact much from the workmen's strength and energy. The class of work, climatic conditions, and other considerations all affect the number of hours, and no uniform rule can be established.

In regard to Item 2 there is a need of employers educating their foremen to the importance of being just, impartial and patient, and of a sympathetic spirit. One needs only to analyze turnover to see that much of the contentment of the workman depends apparently upon foremen, and that when

foremen are changed in departments where turnover is large, and other basic conditions remain the same, there is frequently a remarkable improvement in the turnover figures. Many concerns have gone so far as to take from foremen the power of discharging men, in order to meet this problem. Personally, I am of the opinion that the foreman occupies a most strategic position in the making or unmaking of the good reputation of a shop among workmen.

Item 3 is almost a corollary to Item 2 because the foremen must be at all times willing to hear the grievances of workmen and to take the necessary action to adjust difficulties. The opportunity for the fair hearing of grievances must likewise be extended beyond the foremen, if the human interest of the management is to be thoroughly appreciated by the workmen.

In regard to Item 4, referring to contact with management it seems as though employers were not taking full advantage of their opportunities in this regard. Employees like to feel that their employers are interested in learning conditions first-hand and, thus, visits of the officials of a company through their establishment will do much to make the men feel that their employers are interested in their welfare; this will go far, too, towards making the men feel that their employers are just as human as they are. There are other opportunities for contact with management that it would be well for employers to recognize, such as meetings of their men, field days, smokers, and the like.

In connection with Item 5, employers will do well to show that they have a deep and abiding appreciation of long and devoted service on the part of their employees. Practically, this should take the form of providing easier work for men, when on account of age, they are no longer able to perform fatiguing service, or exacting service that the infirmities of

old age make difficult. Along this line, too, many employers have found pension plans of decided value in proving to their men that long and devoted service is appreciated and recognized by a material act that would lessen the necessity of heavy labor on the part of employees who are too old to perform such service, or who become incapacitated by disease after long service.

Relative to Item 6, much has been done in recent years by employers in establishing Group Insurance and other methods for taking care of the misfortunes of their workmen. Furthermore, this has taken the form of encouragement of organization and maintenance of Relief Associations where, either by stimulation or by material aid, a human service of great importance is rendered the employees.

Relative to Item 7 regarding the supplying of incentives for the welfare of the worker and his family, the employer can strengthen the bonds of human interest between himself and his employees by initiating methods for helping his employees to improve their situation. One of the best methods of doing this is through the establishment of Savings Plans, by the enlisting of employees' interest in the purchase of stock in the employer's company, by establishing educational and recreational opportunities for the worker's children and family, and by various other methods. The field of opportunity is large in this regard and some very splendid work has been done that appeals to the workers strongly. In the writer's own experience one of the kindest things, from the worker's standpoint, that we have ever done was to stimulate regular saving through a Savings Plan involving the local savings banks. Men have thus been encouraged to save for vacations, homes, better furnishings of homes, educational funds for their children, purchase of good securities, and in general, to obtain the

advantages of money set aside for the proverbial "rainy day."

In general, between men good works react for the general improvement of humanity, and certainly if we may believe that the Golden Rule can work in industrial operations between employer and employee, then indeed, must good working conditions return a dividend in kind.

VII.

Instruction Classes in the Factory

An address
delivered before the Industrial Relations Department Meeting
Associated Industries of Massachusetts
February 27, 1924

Instruction Classes in the Factory

The idea of having classes in shops and factories for the better instruction and training of employees is not new. These classes of the past were, however, in large measure due, not to broad and comprehensive policies on the part of business management, but rather to peculiar local needs, so to speak, or to the initiation of individuals who like most pioneers felt that a great need existed for such an endeavor.

Of late, however, progressive employers, realizing that a new spirit is abroad in the industrial world, have been looking about to see what they might do to meet the new problem of improving the condition of their employees—for most of us feel that there is something to be done beyond the pay envelope.

We hear much, even from labor itself, about employees wanting all the so-called welfare work in the pay envelope. While wages and working conditions are the uppermost considerations in the minds of workmen, and rightly so, yet it must be appreciated that the influence of employers for the betterment of employees can extend beyond the pay envelope and so we have had in the past few years a splendid progress made in the betterment of the conditions of the working man through health, thrift, insurance and educational programs initiated by the employer.

At the Crompton & Knowles Loom Works in Worcester an interesting experiment in connection with educational classes has been conducted for the past four or five years. While this new departure is still in its early youth, the results obtained to date indicate that this is a field which business management can well afford to encourage, and that the results reflect to the advantage of both the employees and the employer. This is as it should be, if the growth is to be on

the best possible basis. The workman wants nothing from his employer that he considers charity, and the employer wants to give nothing that is charity, because that is paternalistic. If, however, the employer and the employee both exert effort and sacrifice, perhaps, to bring about a situation that is going to react in a truly co-operative way to the advantage of both, then it has a natural appeal to both. It is this phase of our educational experiment that indicates to us that there is indeed a splendid opportunity for expansion in this field of relations between employer and employee.

It is timely also for the employer to establish educational courses for his employees. The gradual disappearance of the old-time craftsman, who learned his trade through years of thorough and painstaking apprenticeship, and the change in the nationalities and types of employees, as well as the changed demands of industry, likewise make the employer today feel that training and instructing the worker is not only practicable, but almost vitally necessary in many lines. Then, too, in educational circles, in the establishment of trade, industrial and vocational schools, we have likewise seen the need expressed.

In our little descriptive booklet on our educational classes we have the following foreword: "To get ahead in life, a man must learn to help himself. In order to help our men to help themselves, these instruction courses have been established."

Our courses have been laid out to give opportunities to all who desire to take advantage of them. They are, therefore, of quite a varied character, running all the way from practical trade work up to advanced lecture courses on

economic subjects and business law. For the present season of 1923-4, we have the following:

Loom Construction:

Section 1—Advanced work for those who have taken the preliminary courses in previous years.

Section 2—Fundamental principles and practice of loom construction.

Mechanical Drawing—Elements of mechanical drawing, use of drawing instruments, dimensioning, pencil and ink drawing.

Blue Print Reading—Correct methods of dimensioning and interpretation of blue prints.

Shop Mathematics—Simple mathematics, algebra and trigonometry.

Machine Tool Operation—Drilling, lathe work, milling and planing, etc.

Pattern Making—Wood and metal pattern work.

Molding—Principles and practice of molding with actual practice by students.

Forging and Welding—Elements of forging.

Weaving—Art of weaving, chain design for various types of looms, timing and proper functioning of each motion.

Properties of Iron and Steel—Elements of iron and steel, giving physical and chemical properties of same and effects of various changes.

Business Economics—A series of lectures on business principles as applied to industry with particular reference to the Loom Works.

Commercial Law—Designed to acquaint student with every-day business transactions, such as contracts of sale, bills of lading, insurance policies, promissory notes, trade acceptances, chattel mortgages, bank checks, workmen's compensation, trade marks, unfair competition, etc.

Americanization—Teaching English and civics to foreign-born.

Besides the above, we have also a course of lectures in our Exhibition Weave Room, whereby we take each machine shop department to this room, show all the men the work

they do on our machinery in their particular department, explain the functions of the parts they work on to them, and emphasize the need for quality. Thus, we try to make every man see just exactly what he does on our looms, so that he may identify himself directly with our finished output.

The question naturally arises in connection with work of this kind, is it worth while—do the men appreciate it?

RESPONSE ON THE PART OF EMPLOYEES These questions can probably best be answered by giving a statement of the number enrolled in each class and the average attendance, when the courses were about 75% complete.

<i>Loom Construction</i>		<i>Molding</i>	
Section 1—Advanced		Number enrolled	15
Number enrolled	29	Average attendance	8
Average attendance	25	<i>Forging and Welding</i>	
Section 2		Number enrolled	10
Number enrolled	78	Average attendance	9
Average attendance	60	<i>Weaving</i>	
<i>Mechanical Drawing</i>		Number enrolled	46
Number enrolled	15	Average attendance	38
Average attendance	13	<i>Properties of Iron and Steel</i>	
<i>Blue Print Reading</i>		Number enrolled	62
Number enrolled	9	Average attendance	59
Average attendance	7	<i>Business Economics</i>	
<i>Shop Mathematics</i>		Number enrolled	225
Number enrolled	19	Average attendance	147
Average attendance	16	<i>Commercial Law</i>	
<i>Machine Tool Operation</i>		Number enrolled	9
Number enrolled	26	Average attendance	6
Average attendance	23	<i>Americanization</i>	
<i>Pattern Making</i>		Number enrolled	49
Number enrolled	8	Average attendance	46
Average attendance	5		

It will be seen from the above that we are having a remarkably high percentage of attendance, considering that all of these classes, except the Americanization classes and the course in Iron and Steel, are held after closing hours at night. In fact, some of the lecture courses call for attendance between 7:30 and 9:30 in the evening. We have, thus, in our classes an enrollment of 600 and an average attendance of 462, or about 75%. If we should exclude the course that requires attendance from 7:30 to 9:30 P. M. the average attendance would be 82%.

These classes are recruited from what may be termed our better employees. An analysis of the men in the various classes shows that almost all of them would be rated as good or excellent types, and well worthy of the opportunities offered them.

The average age of the students in the various classes is about 28 years. This, in itself, is an interesting sidelight on the value of factory educational courses. It is the younger man in industry who is restless, and many of the measures already adopted by employers to improve relations with their employees affect to only a small degree the younger employees. To illustrate, a pension plan appeals to the older employee and the man who has had many years of service, but to the younger man who sees that 30 or 40 years must elapse before he is eligible, the advantage is so remote that it appeals to him but little. Then, too, the various health and insurance plans adopted by employers are apt to appeal less to the young employee, who naturally has a better average of health and better life expectancy than the older employee. So, also, with savings plans, the younger man feels that he is going to have a long time ahead in which to save, and so he is inclined to put off the day for beginning.

The matter of instruction leading to promotion and better jobs, more pay, more contentment in his work—all of these interest the young man—and through educational courses he sees the possibility of reaching the accomplishment of these aspirations more quickly. Thus, educational courses form an incentive for the younger man that is very important.

It has been noticed, too, that these courses appeal very strongly to the native-born employee. Of our enrollment for this year, covering 600 employees, 85% are born in this country and 15% abroad. This, too, it seems to me, offers an encouraging sign that the native-born employee has an ambition to get ahead. Employers may be doing a greater service than they realize in providing an opportunity for the fulfillment of this desire.

DETAILS OF CLASS OPERATION

a. Number of Lessons in Each Course

Loom Construction—		Molding	10
Advanced	8	Forging and Welding	15
Loom Construction	15	Weaving	25
Mechanical Drawing	50	Properties of Iron and	
Blue Print Reading	15	Steel	15
Shop Mathematics	25	Business Economics	7
Machine Tool Operation	50	Commercial Law	20
Pattern Making	25	Americanization	60

b. Class Hours

Loom Construction—Advanced: 5:15-6:30 p. m. weekly
 Loom Construction: 5:15-6:30 p. m. weekly (two classes taking same work)
 Mechanical Drawing: 5:30-7:30 p. m. bi-weekly
 Blue Print Reading: 5:15-6:15 p. m. weekly
 Shop Mathematics: 5:15-6:30 p. m. weekly
 Machine Tool Operation: 5:15-7:15 p. m. bi-weekly
 Pattern Making: 5:15-6:30 p. m. weekly

Molding: 5:15-6:30 p. m. weekly
Forging and Welding: 5:15-7:15 p. m. weekly
Weaving: 5:15-6:30 p. m. weekly (two classes taking this same course)
Properties of Iron and Steel: 11:30-12:30 weekly
Business Economics: 7:30-9:30 p. m. Seven lectures
Commercial Law: 5:15-6:30 p. m. weekly
Americanization: 11:30-12:30 and 12:30-1:30 bi-weekly. (Four classes each meeting twice weekly)

All of our shop and office departments close at five o'clock and we have found no hesitancy on the part of employees joining our classes because of our having these classes at the end of the business, or work, day.

Most of the instructors are carefully selected Loom Works employees. The teacher of the mathematics course is from the staff of one of our public INSTRUCTORS AND high schools. The teachers in SUPERVISORY ROUTINE the Americanization classes are from the city public schools, and most of the lecturers in the course in Business Economics are outside experts of national repute. In the past, in connection with certain courses, such as slide rule operation, we have had instructors from the State Department of University Extension.

We have found it desirable to develop our own instructors. Naturally, they know our needs and conditions better than would outsiders and make, therefore, good instructors of our own men in our own language and on our own problems.

In order to keep our students continuously interested, there is one very necessary consideration relative to instructors, and that is, that care must be taken to see that they have the proper spirit at all times. They must realize first and foremost that their employers are seriously interested in the work in hand. In order to carry this idea thoroughly

through our teaching force, we have, first, an educational committee which is selected to give a representative character to the work. This committee meets regularly and handles all the questions that naturally would come up. In order that the instructors themselves should get the most out of the work, we have a faculty meeting once every two weeks. In these meetings the instructors discuss among themselves their problems, compare notes, and make recommendations for any improvement of conditions that seem desirable.

In order to stimulate both instructors and employees, we have visiting committees which make monthly visits to all the classes. Each visiting committee is headed by a superintendent, or assistant superintendent, and always has a foreman or two in its membership, so that every class is visited and observations are made as to the character of work it is doing, the spirit shown, and in general, the attitude that prevails in each classroom. This visiting committee makes a report to the Educational Committee, the Superintendent, and the General Manager covering every class visited.

By such organization steps as just described, the faculty, the students, the foremen, and the shop employees are made to realize that the work is very definitely laid out and is followed through earnestly, and that the management is interested not only in the final results, but in all the details affecting the operation of these courses.

RESULTS TO THE MAN

To the student-employee, these courses offer many advantages:

1. They arouse ambition. Many men are thus started on betterment courses that otherwise probably would never get under way.

2. They naturally lead to promotion in many cases. We have discovered many bright young men in these classes.

3. They enable many young men to find themselves, and this, in itself, is not of inconsequential importance in the case of many young men who seem to be proceeding rather aimlessly through life.

4. Through them the students obtain increased knowledge that is definite and specific and valuable in their everyday work.

5. They make men more efficient, as would be expected from greater mental enlightenment.

6. They improve the morale of our working force. They tend to allay irritation and restlessness that sometimes develop through the monotony of shop work.

RESULTS TO THE COMPANY

1. To the company the advantages are likewise obviously many. The improvement as covered above in the mental equipment and development of a large number of its employees must necessarily result in improved efficiency through greater, more specific and accurate knowledge on the part of the employees.

2. They lead to better thinking on our problems. Many suggestions for improvements have been made by the men in our classes.

3. They lead to improved morale on the part of the force as a whole, and to reduced turnover and the saving incident thereto.

4. The employees appreciate that we are trying to develop men from the inside rather than bring men in from the outside for the better positions.

5. Furthermore, they afford to the company officials opportunity for observing the aptitude and character and potentiality of several hundred employees, principally of the younger type, that should in the ordinary course of events be available for future advanced positions. Our courses have led in many cases to the better placement of employees.

Our results to date have been encouraging indeed. We expect to continue and enlarge, if necessary, our efforts in this promising field.

VIII.

Opportunities in Industry for the Scientifically
Trained Man

An address
delivered before the Senior Class, Holy Cross College, Worcester, Mass.
December 11, 1922

Opportunities in Industry for the Scientifically Trained Man

The present is an age of remarkable scientific advancement that affects every phase of life's activity.

In the late World War, the present generation has seen a series of most extraordinary manifestations of the terrific power made available by developments in physical and chemical science.

Industry in recent years has likewise felt the effects of a tremendous evolution in machinery, tools, methods, and materials, and, of late, efforts to improve the human side of the management of business have become widely known and included under the term "scientific management."

Much has been said about the success or failure of the technical graduate in industry, but no one denies that industry presents a most promising field in which scientific knowledge can be applied.

It is not the intention of this article, however, to discuss the advantages of scientific training solely from the standpoint of education. It is rather to consider the importance and advantages of applied scientific knowledge, however acquired, whether or not associated with cultural training incident to the languages, philosophy, and the classics.

That industry needs the scientific mind would seem to be beyond argument. The predominant feature of the scientifically trained mind is its ability to associate cause with effect. It is not content with the knowledge and application of facts, but it seeks the underlying reason therefor. The scientific mind is eager to find out the basic facts of the case. It searches for truth, it correlates the data available, it is analytical. Beyond this, the scientific mind appreciates that there is nothing "hit or miss" in Nature. It recognizes

the inexorable characteristics of the laws of Nature. When once we know the fundamental laws of Nature relating to any particular problem, we are in a position to make rapid advances.

Only a few years ago the causes of many of the troubles incident to and characteristic of steel were unknown. From a practical standpoint it was known that by certain treatments certain results could be accomplished. Troubles in the behavior of steel, and difficulties that could not be explained, due to lack of basic knowledge, were commonly explained away by the expression, "It is the devil in the steel." The application of scientific learning in the investigation of these problems, extending over the past generation, and the establishment of laboratories for the scientific study of the same, led to a tremendous development. The laws governing the action of steel when heated and cooled were determined, and it was found that if a piece of steel were heated up to a certain temperature and cooled down under certain definite conditions, the resultant structure was always the same. It was not long before the great fundamental principles in this field were recognized; and as a result we have the metallurgical advancement of the past few years, which has had so much to do with the material progress of the world, and which has brought about the present era, sometimes termed "The Age of Steel."

Why should there not be place in industry for the scientifically trained man? If knowledge makes for power, then the sphere should be large indeed. It is amazing to realize how few people have any conception of the fundamentals in those things that are most closely associated with us, and which

THE AGE OF
STEEL

INDUSTRY'S
PROBLEM

have so much to do with modern civilization. It would be a rare thing to find in our metal-working industries even a small number of men who have any accurate idea of what steel is from a chemical and physical standpoint, or of what happens when it is worked, or heated or cooled. The same may be said of practically all other industries. Our knowledge of what is going on about us, even in connection with our daily work, is of a very superficial character.

The problem in all industry is to produce the finished article of manufacture of the highest quality and the lowest cost consistent with that quality. To do this, there is essential, first of all, a thorough understanding of the material being handled, that there may be a minimum wastage, a minimum loss incident to working the product under conditions that Nature would make unfavorable. The great human characteristic that is needed in industry today, and which in the practical man is so often absent, is the ability to analyze. The average, untrained man is not able to separate a problem into its component parts, and to find the basic causes that lead to the effects at hand.

It is almost a platitude to say that the principal advantage of a college education is to teach a man to think. The

ADVANTAGE OF	abstract facts that a man learns in
COLLEGE TRAINING	college are, perhaps, of not much
	apparent use to him in industry. In

fact, I am inclined to think that one of the reasons why the college man has not succeeded to a greater degree in industry is that he has felt he was bringing to industry a great deal in the way of the knowledge that he acquired, whereas, as a matter of fact, his knowledge was not of particular use, in so far as its immediate application was concerned. The great asset that he obtained at college, or should have

obtained, and which industry wants, is an agile faculty for thinking out things. Perhaps the college man has tried to capitalize the wrong idea, as it seems to me it would be well for the average college man, who goes into industry, to realize that the store of knowledge he acquired at college is going to be of less use to industry than his ability to think and analyze.

It is a gratifying sign that the appreciation of scientific work in a commercial way is increasing constantly. In 1922 there were upwards of 600 research laboratories in the United States, employing 7,951 investigators. A few years ago there were not half this number. No better proof of the practical value of these could be deduced than that after these research laboratories are established they are almost never discontinued, but on the other hand, are enlarged and broadened.

As to specific opportunities for scientific work in industry, I would state that the need covers the entire range of manufacturing, including raw materials, machinery, production, methods, elimination of waste, and finished product.

Under raw materials, there is, first, the necessity of getting the proper quality in the materials themselves. Their selection should be a matter of scientific knowledge of their physical and chemical properties. There is secondly to be considered, in connection with raw materials, the matter of costs. The problem of getting maximum quality at minimum costs is a commercial consideration of the greatest importance in all

manufacturing. One needs only to look at the automobile field to realize the opportunities in this line.

In the machinery field there is almost unlimited scope in the matter of design and application of high-speed machinery, automatic machines, as well as tools, that
MACHINERY maximum production and minimum costs may be obtained. In the building and operation of machinery a knowledge of physics and chemistry is almost fundamental to any real development. The making of alloy steel and the heat treatment of the same has revolutionized machine-shop practice in the past few years, but a slight error either in the chemical content of the steel, or a slight difference in its treatment would render it absolutely useless. Here is a line that surely demonstrates the necessity of scientific knowledge, and that requires, too, that the knowledge should be accurate, within comparatively narrow limits, or failure results.

Then, too, there is a tremendous opening for the scientifically trained man in the elimination of waste. Waste in
ELIMINATION OF WASTE any plant is the index of the lack of necessary knowledge that characterizes that plant, whether in the selection of the right kind of raw materials, or their treatment in the various processes of manufacture, the methods pursued, etc. The Hoover Commission on Waste, established a few years ago, and made up of the leading engineers of the country, called attention in a very pointed way to the need of doing away with this evil. We have long been considered the most wasteful nation on earth, and because of Nature's wonderful generosity to us our abundance has led us into extravagant ways that are reflected in all paths of life.

To reduce this costly burden, there is no business that does not need an analysis of the existing conditions that result in waste, and the determination of the basic causes therefor. Knowing clearly these causes and the relative importance of each in an industry, it is comparatively simple to apply the remedy and to follow the operation of the remedy in eliminating trouble.

In the great domain of methods, manufacturing offers an equally splendid chance for the scientific man. In practically all manufacturing businesses today there is a department that is called by various names, but which is concerned with the general problem of production methods. These departments are constantly investigating the question of better scheduling of work, the study of the most economical manufacturing units that will not only yield low costs, but will make for high production and high earnings for the workmen.

Closely allied with this is the study of new processes into which many concerns are stimulating investigation. This simply means keeping up to date and bringing to one's manufacturing methods the latest developments and improvements—in a word, the utilization of the best practice.

Beyond this, these departments are doing fine work along the lines of standardization and are making very large savings in this field. Incidentally, there is hardly a business that will not yield handsome returns in this direction when inquired into closely by scientifically trained men.

Still another very promising field, and one which will undoubtedly grow more consequential, wherein scientifically

trained men can find a remarkable opportunity for the application of their training, is in the line of correlating and analyzing shop troubles, whether they be incident to machinery repairs, production delays, or of whatever nature. It requires analyzing ability of a high degree to take the record of a shop along these lines and to learn therefrom the real causes of trouble and, as a result of this study, to outline new and forward steps.

Along similar lines is the analysis of customers' complaints and the correlation of them in such manner as to make the lessons to be learned obvious and practicable for adoption in the elimination of future troubles.

Altogether the scientifically trained man will find his field of opportunity in industry large, and the gates wide open in welcome to him.

IX.

Some Practical Americanization Needs as Reflected in Industry

An address
delivered at a Two-Day Institute of the Harvard Summer School and
Associated Industries of Massachusetts
Harvard Summer School
July 22-23, 1920

Some Practical Americanization Needs as Reflected in Industry

In the past few months, in fact, since the beginning of the war, the importance of the problem of Americanization of aliens has impressed itself strongly upon the mind of every thinking citizen, and so no extended argument need be advanced at the present time to establish the fact that the problem is important.

We further recognize that the problem will be of exceedingly great consequence to the welfare of the nation in the next few years, and that the amount of work to be done to secure effective results is very large because of the fact that much must be done in the immediate future to make up for the lack of work in this direction in years gone by.

The problem is exceptionally important now for still another reason, namely, that the events of the past few years incident to the great war, have given impetus to the development of radical ideas that previously have lain dormant to a very large degree.

The problem, therefore, as we see it now is not whether or not Americanization work shall be carried on, but *how* shall it be carried on to accomplish the necessary results.

In my opinion, the first great need is an actual detailed analysis of the situation. This we have not had up to the present and the lack of it has resulted to a large degree in the absence of a definite policy being established for Americanization work. This paper will deal to some extent with the writer's

THE PROBLEM
ITSELF

THE FIRST
NEED

observations as to certain urgent needs in Americanization work, and is based on his knowledge of the requirements of the situation, as reflected in a study of methods to be followed in his own organization to develop a policy of the Americanization work on the part of his plants, to secure in a practical way those desirable results which should come from a broad Americanization of the aliens now in the employ of that particular branch of industry. A census was first made of all aliens in the employ of the company. This list was then divided into two groups, one consisting of aliens who could speak English, and the other that in which English was spoken but little, if any. To my great amazement, I found a very large percentage of aliens who could speak good every-day English who had not become citizens, even though they had been in this country for many years. I also had tabulated against each alien his own statement as to whether or not he would become a citizen. Most of these aliens, of course, indicated a desire to become citizens of the United States, but investigation showed that while they could talk English and read English to some extent, they understood but little of what America really meant as far as the fundamentals of Government are concerned, the underlying principles of liberty as understood and practiced in the United States, etc.

In another group were classified by nationalities those who did not express enthusiasm about becoming citizens of this country, or who expressed a desire not to become citizens. The reasons for the latter were very interesting. Very few cases of positive dislike for the country or its institutions were disclosed, but an amazing ignorance of the rights of American citizens was apparent. Some of the reasons were as follows, and these are taken from the group which had been in this country for many years:

1. Desired to return some time to the old country, and felt that if they became citizens of the United States they could not do so.

2. Had families in the old country and thought if they became citizens of the United States it might have some effect on their going back to visit their families, or that they might not be able to get their families over to this country.

3. Had property rights in the old country and they felt that if they became citizens of the United States they would forfeit these rights.

4. Many from those countries in southeastern Europe who have hopes of seeing their own sections nationalized into republics or governments of their own in the near future, stated they did not want to become citizens of this country for the reason that if their hopes came to pass, they would like to go back and become citizens of their new country.

5. A small number refused to become citizens, thinking that they had greater freedom from being drafted into the army, etc., if they were non-citizens.

6. Some felt that they could never master English sufficiently to enable them to get their papers, others thought they were too old to learn our language.

There were other reasons covering small numbers. The above includes a study of upwards of one hundred and thirty aliens, so that it would seem to me the conclusions might be termed as fairly representative of the feelings of foreigners in this locality of New England, especially as there were seven different nationalities represented in the groups interviewed.

It will be of interest to note what percentage of the aliens in each group, in the census under discussion, manifested a

lack of desire to become American citizens. Such a tabulation would seem to indicate, too, especially if made for an entire community, that it was characteristic of certain races to be more diffident regarding citizenship than others, and would point out the necessity for more extensive and intensive Americanization work in certain groups than in others. In a word, the writer thinks an accurate census of aliens is as important in guiding the policy and scope of Americanization work, as an accurate diagnosis of a patient's condition is in guiding the course of the attending physician. The list is as follows:

	No. aliens not citizens	No. not wanting to become citizens	Approximate per cent
Racial Group No. 1	9	7	80
Racial Group No. 2	37	26	70
Racial Group No. 3	86	55	65
Racial Group No. 4	35	20	60
Racial Group No. 5	22	12	55
Racial Group No. 6	23	7	30
Racial Group No. 7	15	4	25
	<hr/> 227	<hr/> 131	<hr/> 60

From an investigation into the individual records and character of the various men in the groups referred to above, the nature of their work, and their personal characteristics, it seemed conclusive to the writer that, while Americanization classes in English were necessary as the first step in making citizens of non-English speaking aliens, if the work stopped here, the results must fall far short of the full scope of the object desired. Another far more comprehensive step should be taken, and that is to see that the alien understands thoroughly for what the United States stands.

THE SECOND NEED

The second great need, therefore, for effective Americani-

zation work is, in the writer's judgment, thorough educational work from two sources:

1. From the alien's employer.
2. From those sources closest to the alien, namely, his family, friends, church, and societies.

Taking up the first, viz., from the alien's employer, it would seem that Americanization classes in English as at present conducted are excellent, especially if the employer makes it apparent in every way possible, without force, that it is to the alien's interest and to his family's interest that he become an American citizen. I do not think it is going to be effective for employers to refuse to employ aliens simply because they are aliens. It is going to be far better and, in my opinion, tend to prevent the growth of radicalism, if efforts are made to correct the wrong impressions at the source, rather than to try to nullify the effect by refusing employment. This phase of Americanization work is being developed along good lines and it seems certain that it will be productive of much good. As to the directing agencies for this work, I believe it will be in the interest of effectiveness that they be under public direction. The advantages of co-ordination and team-work could thus be obtained.

In connection with English classes in factories and shops, there is some question as to whether or not it is better in Americanization classes to mix up the various nationalities, or to teach by racial groups. There are advantages to both, of course. Both can profitably be pursued. We have had excellent results, particularly where we have separated the classes into racial groups by themselves. Certain nationalities learn faster than others, and a proud race is not likely to be encouraged if another nationality seems to be making

much more rapid progress, especially when this difference is noticed. Then, too, there is another advantage in teaching by distinct racial groups and that is that the part played by men from the various nationalities in building up this country can be portrayed more enthusiastically than would be the case if the classes were mixed. It is a stimulus to any racial group to learn that men of their race have helped to make this country what it is, and our history abounds in striking instances of this character.

The other phase, however, is the one on which I would like to put the greater emphasis, namely, educational work from those sources closest to the alien. Among the effective means to accomplish this are the following:

1. Educational work through the racial groups, that is, through the churches, societies, clubs, etc. It seems that certain misconceptions or misapprehensions are characteristic of certain racial groups, that is, in one group it will be found that the misapprehensions are of one character, while in another group those that are characteristic of others will be entirely missing, and their place taken by a new set. If the central agency that is looking after Americanization work in any community, were to have a census made of all the non-English speaking Lithuanians, for instance, and the experience in that group tabulated, to be made the basis of educational and propaganda work in the Lithuanian churches, clubs and societies, it would seem most effective to correct any misconceptions or misapprehensions in that group, and so with all the other groups. This is a phase of the work that is not being carried out to any great extent nowadays. An agency in each racial group in each community could be established that would have for its share in the work the dissemination of proper corrective propaganda to

meet any wrong views, or lack of the right views, in that group and, if carried out sincerely, it would, in my judgment, be very effective.

2. Educational work in the schools among the children. This is, of course, a very important phase of Americanization work, and one that I think a great deal more can be expected from in a practical way in the future, especially if the work in the schools is based on a knowledge of the needs of the particular aliens in the localities of the various schools. In other words, the character of the Americanization work in a Polish center should be in line with the needs of the Polish people toward this end. In order that the work of the children might be effective with their parents, means should be developed to connect with the children's Americanization work, the interest of the parents. This might be done in various ways. One way that comes to my mind is that of having the children write essays on various phases of our history, our aims, ideals, etc., and the teacher instruct the children to get their parents' views on such essays, etc. The children's comments on their parents' criticisms should be enlightening and would tend to show to what extent the parents were sympathetic with the thoughts expressed; based on these criticisms, further work could be undertaken in the schools to advance the cause.

The third great need to make our Americanization work of the future effective, is to develop on the part of our people in general and of employers in particular, a broad policy of the recognition of individuals, regardless of racial lines. It is in this direction that we must Americanize Americans, so to speak. We must wipe out bigotry and prejudices as to creeds and races.

THE THIRD
NEED

There is no place in our Americanization work for "reforming,"—our country stands for toleration.

We must have a mutual regard between us and the alien—a regard that must make it un-American to have scorn or pity for the one who had not the good fortune to have been born here. We must stop thinking of the foreign-born as "wops," "dagos," etc.

In a word, we must develop an attitude that is sincere, and which will go far in convincing the alien that we stand ready to welcome him to a full realization of the opportunities and privileges of American citizenship.

In our factories, shops, etc., much good work can be done in this direction, by putting the foreign-born employees on committees, etc., covering the various shop activities, by affording them, through training, opportunities to become sub-foremen and foremen; by mixing up nationalities in the various jobs to prevent the development of cliques; by training them for better positions. It is thus that we can show them they have opportunities that offer them something beyond "mere wages."

In the plants with which the writer is connected, trade school classes and other classes of instruction have been opened, which the foreigners have been urged to attend. While these classes have been in existence only a few months, they are apparently appreciated and give much promise. Many opportunities of this nature will undoubtedly present themselves to employers who look upon the Americanization problem in its broadest and most promising aspects, and much effective co-operation with the other agencies engaged in the work will result thereby.

The fourth great need in Americanization is co-operation between employers and all agencies concerned in the work.

This would seem to be an essential requirement to rapid progress in Americanization work of the future. I believe

THE FOURTH that in each industrial community there
NEED should be a central agency for carrying on

Americanization work among the aliens and that this agency should, by a practical census, know the situation regarding the aliens of the various groups in the various industries of the community. They should know the attitude reflected by the several groups in the various shops, and the propaganda and other work that they would direct in the groups should be based on an accurate and detailed knowledge of the situation in that particular vicinity. It is not likely that the attitude of the same group in various localities, even in a small section like New England, is the same and, consequently, it does not seem to me that it is going to be possible to standardize Americanization work on the part of the central Americanization agencies in a way that will secure thoroughly effective results.

Finally, we must all realize that, as good American citizens, we have an individual duty to perform in co-
FINALLY operation with existing Americanization agencies —and that the object to be accomplished, viz., the making of a bigger and better nation for our posterity, is one worthy of the best there is in us and marks one of the highest duties we owe our country.

X.

The Attitude of Industry toward Americanism

An address
delivered before the Americanism Congress of the American Legion
at the State House, Boston, Mass.
January 28, 1921

The Attitude of Industry toward Americanism

It has been a pleasure and a satisfaction to be associated in the work of Americanism carried on during the past two years in the industries of Massachusetts.

I believe industry in Massachusetts is alive to its responsibilities in connection with the handling of the large number of aliens who have made their homes within the Commonwealth, and appreciates, too, in full measure, the importance of the problem of bringing to these sons of foreign soil the advantages and opportunities of citizenship. As a necessary first step in this process, industry in Massachusetts realizes the vital need of immigrant education, and the Plymouth Conference which has been referred to, marked a distinct epoch in the recognition of two essential things:

1. That the education of the immigrant is a function that can best be performed under the direction and inspiration of the regularly established educational forces of the Commonwealth, and
2. That the public schools which teach the aliens' children can likewise, and with equal success, teach the aliens themselves.

During the past few weeks the writer has closely followed the progress of about 150 aliens attending Americanization classes in the industry with which he is connected, and has been impressed with the eager interest shown by those of practically all nationalities represented in the classes. This interest is manifested most emphatically in the attendance. Out of several classes, meeting four or five times a week, a total of 109 individual sessions to date, there is shown to be an average attendance of 95.5%. In this connection, the question naturally arises as to whether there seemingly is any

difference in the interest displayed by the various races. It has been our experience that there is practically no difference, and our classes include French Canadians, Greeks, Armenians, Italians, Poles, and Lithuanians. These classes, which were established in co-operation with the public school authorities, have been taught by a public school teacher, with most gratifying results.

Along this important line of educating and training the immigrant, Massachusetts has inaugurated a splendid program which, the writer believes, will be of considerable value both to the alien and the community, if properly developed and expanded.

Beyond the scope of these classes, I want to dwell a moment and point out special opportunities for work in Americanism that industry has, and in which I think the members of the Legion throughout the state, in their regular employment in workshop and factory, can render worthy service.

THE OPPORTUNITY OF INDUSTRY

In the first place, I want to say that my experience with many thousands of aliens in the past few years has convinced me that the great majority of them are eager and anxious to become citizens of the United States. Not long ago, I caused an inquiry to be made among a large number of so-called foreigners in our employ as to why they had not become citizens. These men had been in this country for many years and could speak good, every-day English. I found only a comparatively small number who said they did not wish to become citizens, and outside of a few who apparently had radical inclinations, their reasons for not wanting to acquire citizenship were based on erroneous views as to the rights and duties of citizens.

To get down to specific instances in which industry can take a good part in Americanizing work, I would call attention to the following:

1. I think the work of industry should begin with the application of the alien for employment at the shop gates. Here, the employment man can ascertain, in a nice way, if the alien desires citizenship and signifies an inclination to become a citizen when he is qualified. Here, too, I think it is well, through an interpreter, or through a letter which could be written up in the man's own language, to show him the advantages of American citizenship and point out to him that American citizenship is a very desirable thing for *him*, and is the first requirement in making a man really "as good as the next fellow," which is a general feeling that seems to possess the average individual in the United States within a comparatively short time after he reaches our shores. If industry in general would adopt the practice of launching its Americanizing work from this point, the results should be effective.

As a general rule, employees have a high regard for those things which their employers consider as important, and the alien's interest in Americanism should be stimulated if he could be impressed with the idea that the employer is not trying to force citizenship upon him, but is recommending it to him because as an American citizen he can exert more influence for himself and his family, and can make far more of himself by being a citizen.

2. The second important thing that can be done by industry to make the alien appreciate what real American citizenship means, is to show him that we have a sincere and sympathetic interest in him. As far as the employer

is concerned, this means that little cliques of one nationality will not be permitted to be built up within the plant. To this end, many concerns require that departmental forces shall show nationalities of various kinds, rather than a predominance of one and the elimination of others. This is essential to show the immigrant that one nationality is not seemingly favored as against any other, but that, on the contrary, all are being treated alike.

On the part of the shop employees themselves it is required, in order to make the foreigner appreciate that our attitude is sincere, that there be no discrimination against him either by name or act. In the average plant, especially in days gone by, it was usual to call the foreigner by some name such as "wop," "dago," etc., which the alien very soon recognized bore with it an atmosphere of scorn. I think there is less of this attitude toward the newcomer to our land now than has been the case in the past, and it is along this line that I think the members of the Legion can do a fine service every day, no matter where they are.

3. It is necessary to make clear to foreigners that there is a chance for them to get ahead in this country, if they will only make the most of the possibilities offered them, and industry should go out of its way to present opportunities. In the company with which the writer is connected, we have practical trade school classes, whereby men can get instruction in various kinds of machine work. We have classes in shop drawing and mathematics to teach them to read blue prints, gauges, etc., and we have advanced courses in the product which we manufacture. We especially invite foreigners to these classes and we have a very large number taking advantage of the opportunities offered. I think this has a very fine practical

effect in that it shows these men that the attitude of American industry is to give every man a chance to better himself and get ahead. That is the spirit of America.

4. There is another opportunity that can be used to great advantage by industry in absorbing the foreigner, so to speak, and that is, by giving representation to him on various shop activity committees that have to arrange for shop outings, picnics, parades, and celebrations of all sorts. During the war, in connection with the Liberty Loan Drives, we had much success among the aliens, by having on the committees in charge of the shop campaigns, representatives of all the different leading nationalities. We did not feature them unduly, so that it would not appear that we were "straining" in this direction. We found that they made very efficient workers and that their fellow-members on the committees developed a real sense of appreciation of their value. We have done the same in connection with Savings Drives, and it has been our experience that the various nationalities do their full share in making a success of any movement in which they have a part.

In conclusion, the writer feels that industry should co-operate to the fullest extent with the Commonwealth in this great problem of absorbing the alien and making him an important part of the shop organization and a valuable asset to the community. In a word, industry's work is to give the alien an incentive to develop and broaden himself, and to present opportunities to him that will make him realize and appreciate the benefits of American citizenship.

XI.

The Essentials of a Plant Safety Organization

An address
delivered before the tenth Annual Safety Congress
State House, Boston, Mass.
September 27, 1921

The Essentials of a Plant Safety Organization

The subject assigned to the speaker is old, but like a good story it "loses nothing in the telling." It covers, too, a matter that seems elementary at this comparatively late day in industrial safety, and yet it involves the fundamentals upon which rests either success or failure.

It is an old truism in industry that a method or system is only as good as the humanity which directs it. The human element after all is the vital force that makes for results and in no line is this true more than in plant safety work. I want to stress, therefore, at the very outset the importance of building a plant safety organization about individuals who have, either by natural instinct or by acquisition, the real safety spirit.

There will be found in every plant men who seem to have, intuitively, a natural tendency in this direction, and who are always ready to assist in every way they can in helping their fellow men.

A selection of men of this type to form the first safety organization in a plant will in the speaker's judgment, do more to establish firmly and effectively the safety idea than can be done through an organization following less natural lines.

To do pioneering well one must be a missionary, and a missionary must have unfailing belief in his creed. A plant's first safety organization must do a lot of pioneering, must blaze new trails, in order that those that come after will have easier traveling.

I believe that the safety movement in many plants has not made the progress that it should have made because the "method" end of safety has been emphasized and the human end minimized.

Too often, organized safety work has been initiated in plants by the creating of an organization of individuals for various committees based on geographical considerations, so to speak, entirely—that is, men are rather artificially picked to represent various parts of the plant or classes of work. I do not mean to infer that ultimately such a method of selection of safety committee members is not proper, but I do mean to say that it is not the basis, in my opinion, for giving the safety idea the best chance at birth and an opportunity for a flourishing babyhood.

Thus, the first essential is to establish the safety idea by an organization that believes thoroughly in it. Too often
THE FIRST
ESSENTIAL extraordinary results are expected in too short a time, and the lack of them leads to a “straining” in the way of organization.

I have known of plants with scores of committees accomplishing less than other plants with one or two. In safety organization as in everything else, quality counts more than quantity. Let the plant safety man take it easy at the beginning, make “quality” his aim, and his progress in the long run will be greater.

Assuming that a good start has been made along the above lines, it is in order to discuss other essentials and to refer in further detail to various points in connection with the development and maintenance of good safety organizations.

First and foremost, beyond the matter of having men with real safety spirit and vision on the first shop safety committee,
THE SECOND
ESSENTIAL it is important that the plant management have a proper sense of the importance of the subject, and that they make this known to the men in no uncertain way. It is only

natural for men to want to do what their superiors are interested in and it is an argument of no small weight if the safety man can say to safety committees and the workmen generally: "Mr. So-and-So, our General Manager, or Superintendent, is vitally interested in our safety work, and nothing will please him more than that we should make a splendid record."

It is an encouraging sign of the times, too, that management everywhere now is looking upon safety work not as a paternal fad, but rather as a work of practical and vital consequence to business.

In the earlier days of industrial safety, it was sometimes necessary to convince management that safety was a good "dollars and cents" proposition, but happily now, however, management feels it is an important factor in that feature of industrial life that has come to the fore so prominently in late years, viz., the field of human or industrial relations.

As a second essential, therefore, the management must be distinctly friendly to safety work and the workmen must know it.

And now comes the matter of shop safety organizations and a discussion of means to keep the work of safety "fresh and interesting." I use the terms

SHOP SAFETY
ORGANIZATIONS "fresh and interesting" advisedly.

To those who have studied safety work in many organizations, the conclusion has come only too often that a lack of success is due to the fact that safety efforts, instead of being "fresh and interesting" have been "stale and dry." The ever-present problem of the safety man is to keep his subject from getting stale. To that end, he must study constantly to keep up interest in safety, and it is upon this fundamental idea that he must build his com-

mittees and his safety program generally. I do not think there is any one so-called royal road to success in safety work.

The number of committees and the number of men on these committees must depend on the plant. No two plants are alike relatively speaking, as to character of output, location, number, class and type of workmen, and other features.

In the simplest analysis, safety work may be divided into two principal classes:

1. Making the machine as safe as possible by mechanical safeguarding, and
2. Making the workman as safe as possible by training and education.

In regard to the first division, viz., the safeguarding of machinery, little needs be said in this discussion. It goes without saying that all dangerous conditions that can be eliminated or minimized by the application of safety appliances should be corrected.

The safety organization in almost any plant, after its earliest days, will be concerned mainly with the second division, viz., the education of the workman along safety lines. It has been estimated, as the experience of many plants long after the safeguarding of machines with appliances has been carried almost as far as practicable, that upwards of 90% of all accidents are preventable only through the workmen themselves. This brings us to the real problem before safety organizations everywhere—the necessity of workmen being taught to be careful and to develop only safe methods of doing their daily tasks. In the language of the day, safety must be “sold” to workmen. Hence, our conclusion that it must be kept “fresh and interesting.” The practical problem before us, therefore, takes the form of requiring our safety organization to be able to make the

subject of safety a live one always. To that end, the safety engineer of the plant must know his goods and his buyers. He should have those qualities that are necessary in his calling, good personality, a kindly sympathy with humanity, and ability to organize, to advertise—in a word, to “deliver the goods.”

The safety committees themselves should be carefully selected, and of great importance, I find, is that dignity be established by the plant management in connection with their appointment. A letter signed by the Superintendent and calling an appointee's attention to the importance of the work of the committee to which he is appointed, gives an important standing to the work in the estimation of the employee so appointed.

I believe safety committees should be frequently changed as to personnel, by having a certain number of the members of longest service drop out at periods of three or six months, their places to be taken by new men. Thus, the continuity of the committee's work is never broken.

The sending of safety committees to visit other plants is another way of keeping the subject alive, and such visits almost invariably result in a committee getting some new viewpoints. I think, too, the practice of getting men outside the plant organization to meet and talk with the safety committees an excellent thing. In my own organization this feature of our safety work has been especially fruitful of results.

Another plan which has stimulated our safety organization, has been the giving of evening safety socials in the Company's Recreation Hall. In turn, each of the larger departments of our works has conducted an affair of this kind with much success. The department safety committee arranged, with the assistance of the safety engineer, all details of their own entertainment which consisted of two

or three good talks on safety interspersed with music, singing, vaudeville acts, etc. The workmen were allowed to bring their wives and children to these socials and thus the importance of safety was featured to their families. Incidentally, these socials gave the plant management, through the presence and talks of the officials, an opportunity of showing the men that the Company's interest in safety matters was being maintained.

In an advertising way, so-called, the safety organization should constantly place before the men information and statistics concerning the shop's record. The methods of doing this are many, safety exhibits, photographs, bulletins, clocks, charts, etc.

And now a final word of advice and caution. A plant safety organization should always have clearly in mind the foreman. The foreman should be considered in the membership of the committees themselves, and should get most of the credit of commendable safety performances. In the speaker's opinion, the foreman simply *must* be "sold" if the best results are to be obtained. He is the man who is with the workmen all day long, and if his mind and eye are trained for safety he will detect unsafe and careless methods on the part of his men on their first appearance. He will stamp out danger before it gets a hold. When we succeed in getting our foremen thoroughly imbued with a safety conscience and consciousness, we will have made a gigantic stride in solving the present phase of the industrial safety problem. Any lack of results to date must be attributed, in large measure, to the fact that on Safety our foremen are still "at large." We must see to it that they are put "in captivity" as soon as possible.

THE FOREMAN'S PART

XII.

The Most Important Factor for Safety Work in a Manufacturing Plant

An address
delivered at the Fourth Annual State Conference of the
Massachusetts Safety Council, Boston, Mass.
May 14-15, 1925.

The Most Important Factor for Safety Work in a Manufacturing Plant

I have been interested in industrial safety for many years. It was my good fortune to have been superintendent of a large plant in the United States Steel Corporation, when that great organization was doing its pioneer work in safeguarding the lives and limbs of its employees.

I recall what a monumental task it seemed to us at that time as we looked over our grim record of fatalities and serious accidents of the past, to try and reduce the terrible cost of industry to human life, necessary as this task surely was and commendable as was the effort.

Looking back now and comparing present accomplishments with the situation of fifteen or twenty years ago, I am amazed at the contrast. A performance in the reduction of fatalities and serious injuries is taking place in thousands of factories throughout the country that twenty years ago would have been thought the most improbable of even prayerful hopes.

In my own city of Worcester where we have a most excellent local Safety Council, a record is being made that is little short of astonishing. The mem-

THE RECORD IN WORCESTER

bers of this Council report to a secretary each month the average number of employees, the number of lost time accidents, and the number of days lost in that period. This has been done for some time past, hence, it is a simple matter to make comparisons as to what is being accomplished. In 1923 there were 1019 lost time accidents among the 45 plants reporting to the Worcester County Safety Council. The average number of accidents among these 45 plants was

only $3\frac{1}{3}$ per working day for the entire year, and this among 23,419 employees.

In 1924 these same plants, reporting 24,383 employees, had 639 lost time accidents, or an average of slightly over two accidents per day among upwards of 25,000 employees.

This remarkable showing is reflected in another way in the Worcester records. If 300 days is taken as the average number of days worked in 1923, out of a total of about 7,000,000 man days, there were lost only a total of 16,764 days on account of lost time accidents. This figures out one-fourth of one per cent of workmen's time lost through accidents. In 1924, perhaps we should figure on a lower number of days per man during the year, on account of the general business depression. If we assume an average of 250 working days for the year 1924, we find that out of approximately 6,000,000 man days worked, the number of days lost, through accidents, was 10,810, or approximately one-sixth of one per cent.

And this splendid accomplishment is being made in industries that formerly had unfavorable records for fatalities and serious injuries—steel works, rod rolling mills, wire drawing plants, foundries, and metal working and other establishments involving high-speed powerful machinery, and conditions usually considered dangerous. In the last decade or two the whole problem of safety in industry has seen a development of tremendous scope along four lines:

WORK OF THE
LAST DECADE

1. In safeguarding machinery.
2. In factory organization for safety.
3. In safety methods employed.
4. In the education of workmen and their response as to the problem of safety.

As a result of this extraordinary evolution and having in mind the serious responsibility upon us to "carry on" the great work of industrial safety with continuing success, I have come to the conclusion that the answer to the question that forms the title of this discussion in the program today, "The Most Important Factor for Safety Work in a Manufacturing Plant," is—"The Attitude of the Foreman towards the Safety Problem."

After all our problem in industry is to make the workman safe *at his work*. The workman himself must not by careless methods expose himself to injury at any time during his entire working day. The machinery and tools must be in such condition at all times as to reduce the accident hazard to a minimum. Factory working conditions as to light, sanitation, etc., must be likewise favorable for injury prevention. For the most efficient accomplishment in the light of these necessary precautions there must be somebody who has the intelligence to detect such conditions as are inimical to safety, and who has the consciousness and responsibility for correcting them. Beyond intelligence, required for detecting among workmen unsafe conditions regarding machinery, tools, material and manufacturing conditions generally, there is necessary the authority for altering and adjusting such situations. Who is there in the existing methods of factory administration who is better fitted to handle these fundamental requirements of safety than the foreman? In fact, who other than the foreman is there in our manufacturing plants today who "fills the bill"? He is with his men from morning until night and every day in the year, he is usually one of them, he knows the workmen's problems, he knows their moods, he knows his machinery and tools, and he knows the requirements of the work. If

the foreman has a safety conscience and consciousness, his mind and eye will be so trained for safety that he will detect unsafe and careless methods on the part of his men on their first appearance. He will stamp out danger before it gets a hold.

In the speaker's opinion, one of the most hopeful signs of the times is the increasing disposition of business management to consider the foreman of vital importance in the handling of the problems of industry.

In the past few years in the development of industry, we have seen "method" emphasized to an unusual degree, in which we must admit the importance of the foreman has been considerably minimized. Staff bureaus have taken from him many of the functions he exercised in former days. The same development has taken place in safety organization. Some of us have had scores of safety committees organized in every conceivable way. Our eagerness to get quick results, and the lack of them, has led in many plants to a "straining" in organization as the best means to get everybody interested in the safety problem.

In our own organization, and I presume the same is true quite generally, these have all dropped by the wayside and we have come down to just one—a safety committee consisting of every foreman in the plant. This group meets regularly to discuss our accident and safety problems. We look into every accident to see what lesson is to be learned. The lesson is thoroughly brought out in our foremen's safety meetings and is applied, not only in the department where the accident occurred, but throughout the plant where similar possibilities might occur.

We have thoroughly convinced our foremen that our accident prevention problem is in their hands, and we look to them for results.

In order to make this application of responsibility as con-

crete as possible, we rate them annually on the basis of their lost time accidents. Each year we make out a so-called "Management Report" for each foreman covering his performance in Quality of Product, Production, Handling of Men, and Costs. If a department does not show progress in the accident problem, it is marked "Sub-normal" in the "Handling of Men" sub-division of the report.

On the basis of performance as reflected in these management reports, we base our viewpoint as to a foreman's fitness and efficiency and determine therefrom his capabilities for promotion, wage advances, etc. With this method of "yard-sticking" our foremen on accident prevention it is surprising how interested our foremen are to have good accident records.

The question naturally arises as to how our own records reflect interest, efficiency and performance on the part of our foremen in meeting our accident prevention problem. In our Worcester plant where from 2000 to 2500 are ordinarily employed in the shops the time lost by employees due to accidents was .4 of 1% in 1922 out of approximately 600,000 man days worked, .45 of 1% in 1923 out of approximately 750,000 man days worked, and .22 of 1% in 1924 out of upwards of 500,000 man days worked. Our work covers, too, a wide range of what is ordinarily termed dangerous occupations—a foundry of several hundred employees, a woodworking department involving another two hundred, and machine shops using all kinds of metal working machinery, employing a thousand men.

Our foremen are thus made to know that we expect of them the same response in regard to safety as they render in connection with every other problem that is a part of their daily work. We have impressed upon them that, to a great extent, the reputation of our plant is in their hands.

Nothing hurts a plant more than to have it said that it is a dangerous place to work in, while if fatalities and accidents occur, which might have been prevented by a simple protective device, a little care or thought on someone's part, the feeling will gain ground that such a plant cannot be safe, and consequently, is not up to date. No foreman wants this said of his concern, and especially does he dislike such an aspersion cast upon his own department. Accident prevention should be considered a serious, important, and consequential problem of management and as such should be worthy of the most thoughtful, patient, and conscientious efforts of each and every foreman.

I do not mean to convey the impression that the importance of all the other phases of the safety movement may be minimized. On the contrary, it seems to me our record of today is the sum total, so to speak, of the contribution of all the splendid agencies that have been built up to meet the problem. However, it would appear that the maintenance of the splendid good accomplished up to now, and the making of further progress in the industrial safety field depend upon the emphasis placed as to the value of the enthusiastic support and whole-hearted co-ordination of the foremen in industry with these various agencies.

XIII.

Industrial Savings Banking

The Worcester (Mass.) Savings Plan

An address
delivered before the Savings Bank Section, American Bankers'
Association Convention, Washington, D. C.
October 18-22, 1920

Industrial Savings Banking

That it is desirable to encourage the working man and woman in industry to save, is beyond argument.

That it is equally desirable to have the savings of working people give a return in earnings consistent with absolute safety, and at the same time build up the working capital of the country, is also beyond argument.

In connection with industrial savings systems, three questions naturally arise:

1. Will the working man support a savings system that can be explained to him, and thoroughly understood by him?
2. Is there such a plan?
3. What is necessary for the successful inauguration and maintenance of an industrial savings system?

In this paper, the writer will discuss a plan which, for brevity, will be termed the "Worcester (Mass.) Plan," and the experience related herein is based upon the operation of that plan since its inception in November, 1919.

One of the excellent things that the war accomplished was the building up of thoroughly efficient organizations in all plants for the sale of Liberty Bonds and War Savings Stamps to the working people. So effectively was the work done in connection with various Liberty Loan campaigns that many of the largest shops consistently reported 100% subscriptions on the part of their employees, and it was rather exceptional to find any that went below 90%. In doing this very successful job, two purposes were served:

1. The need of the country for funds to carry on the war was well taken care of.

2. The strongest kind of an incentive to thrift was established among the working people themselves.

With the ending of the war, there was no further need for Loan drives, and, generally speaking, no substitute has been provided for these drives that will serve the purpose effectively of promoting thrift. It seemed to the writer that the opportunity for encouraging saving on the part of the working people, as stimulated by the war, was too great to lose and, therefore, an effort was made to find a savings system that could be successfully adopted in the shops and offices of the company with which he was connected. He was impelled to do this especially by an appeal from the shop committee that had handled the various loan drives, for some savings plan that the management would endorse and urge the men to support. Thus, in November, 1919, after several consultations with savings-banks officials of the city, the details were finally worked out and approved, and the plan was launched at the Crompton & Knowles Loom Works, where upwards of three thousand are employed.

The success of this plan during the past year will be given later in brief detail, and warrants our answering the three questions previously raised :

1. The working man *will* support a savings system that can be explained to him, and thoroughly understood by him.
2. We think we have such a plan operating.
3. The principal conditions necessary for the successful inauguration and maintenance of an industrial savings system are four in number :

(1) The system itself must be simple, flexible and easily understandable.

(2) The management must energetically support the savings idea and show it.

(3) The foremen must be thorough believers in it, and do a great deal of the initial missionary work that is necessary to get the plan started among the men.

(4) The organization for introducing it to the men throughout the shop must be enthusiastically in favor of the savings idea itself and the "Plan," and must consist of such elements as represent the various nationalities and classes of workmen in the plant.

Of the four conditions named above, which I consider necessary for the success of any plan of this sort, the attitude of the management, the foremen, and the organization of the shop committee are most important. The attitude of the management is most consequential, and I do not believe that any Thrift Plan will work successfully, at least for very long, unless the men feel that the management is vitally interested in the success of the plan, and realize fully the views of the management on the subject.

The Worcester Plan we think is exceedingly simple, flexible, and understandable. It consists essentially in
PLAN having the men sign cards, authorizing the
DETAILS pay office to deduct regularly so much per
 week from their pay envelopes. On this card
the employee designates not only the amount he wishes deducted each week, but also the bank where he desires to have his account opened.

THRIFT CAMPAIGN CARD

To Crompton & Knowles Loom Works

Please open for me a savings account in the local bank designated below, and withhold each week from my wages for deposit therein, subject to the rules of the bank and in accordance with the plan as outlined and announced by the company, Nov. 8, 1919, the sum of Dollars (\$)

Signed No

Address

If you have no preference as to the bank make a cross here

If you have preference make a cross beside the bank's name.

Worc. Cty. Inst. for Savings

People's Savings Bank

Mechanics Savings Bank

Worc. Five Cents Savings Bank

Bay State Savings Bank

Form 1165

At the Crompton & Knowles Loom Works, campaigns for encouraging the starting of bank accounts among the men are conducted every three to six months and last a couple of days at a time. This method we have found to be much superior to that of simply leaving the system open continuously. When a definite campaign is staged, the idea is emphasized all over the plant. Enthusiasm is worked up; and we found, by making comparisons between plants that have campaigns and those that do not, that there is a marked difference in the number of supporters of the savings plan and also the enthusiasm regarding it.

After a campaign, the cards are sorted according to the banks selected. The banks are then notified to send representatives to the plant, where the men are signed up in accordance with the rules of the bank.

After the initial deposit goes to the bank, pass books are made out which remain in the possession of the paymaster's

office at the plant, being taken to the bank once a week to have the weekly deposits entered therein. A slip is put in the pay envelopes each week, stating that, in accordance with the workman's authorization, a certain amount is deducted from his pay of that week. On another line is also stated his balance to date in the bank. The second figure constantly grows and is, we believe, a stimulus to saving.

There has been deducted from your wages
today for deposit in the Worcester Mechan-
ics Savings Bank the sum of \$.....
This makes the total balance on deposit
in your favor \$.....

CROMPTON & KNOWLES LOOM WORKS

Form 963

The men know that the money is taken out of their pay envelopes on Saturday and that on Monday it goes to the banks of the city. The employer sends weekly to the bank, as agent for the men, a check totalling the amount designated by the men, for that bank. Accompanying the check is a list of the men's names and amounts, and from this list the entries are made at the bank. These entries in the bank books are also checked at the plant when the books are returned. The employer assumes responsibility for errors in the lists sent to the banks. The books are back at the plant in a day, and an employee may see his book at any time.

The plan is flexible. If a man wishes to increase his deposit, he simply tells his foreman, who advises the payroll office, and the change is accordingly made. If he wants to reduce the amount, the same simple rule is followed. If he wants to draw a little out for an emergency, he signs an order, the paymaster gives him the money, and he is not even obliged to go to the bank.

If he leaves our employ, we do not give him the money, but simply hand him the bank book, in which we insert a statement that he has been started on the road to saving and we express the hope that no matter where he goes, he will

NOTICE

In handing you your bank book we sincerely hope that you have learned the value of thrift and that you will continue to make a deposit at the bank every week.

If your future employers have no such plan in force you may still continue saving by going to the bank and depositing whatever amount you care to. All you have to do is to take your bank book with you to the bank each time you want to put some money in the bank.

CROMPTON & KNOWLES LOOM WORKS.

Form 987

keep his bank account, and that, thereafter, all that will be necessary for him to continue the bank account will be to go to the bank with his book, whenever the bank is open, and make whatever deposits he desires.

In regard to the second condition necessary for the success of the plan, namely, that the management be energetically behind the savings idea, I would say
 SUPPORT OF MANAGEMENT that this must be made perfectly clear to the employees. We appealed directly to the men by putting a letter in their pay envelopes, over the General Manager's signature, emphasizing the importance and necessity of thrift, and urging their support of the Thrift Plan which a committee of foremen and workmen had prepared and were about to submit.

The third condition in regard to getting the foremen interested is of unusual importance because the men, being naturally conservative, are sure to ask questions regarding the innovation. If the foreman is well posted on the features of the plan and can answer questions satisfactorily and in a spirit that shows he believes in it, the workman is almost bound to feel warranted in starting a savings account. The General Manager, at his regular meetings with his foremen, spoke of the plan at intervals several weeks before it was actually started; and when the campaign was begun the foremen, as a rule, believed it was an excellent move, particularly for the future welfare of the men themselves.

GETTING FOREMEN INTERESTED

In regard to the fourth condition, namely, the organization for introducing it into the plant, I would say that this is, of course, something that would vary depending upon the size of the plant, the nature of its organization, and the methods that are usually followed in the various plants for conducting campaigns among the men. Most plants have committees of one sort or another that can undertake this work, augmented by such special committees as the occasion demands. For instance, it is highly desirable that a special committee be appointed, consisting of representatives of the principal foreign-speaking peoples in each particular plant. These men should be called together a sufficient number of times to instruct them properly as to the plan in detail and to get their support. This is of vital consequence in reaching this portion of any factory's employees for the reason that English, as written, is not understood by a large number, and, therefore, the direct

INTRODUCING PLAN INTO PLANTS

appeal of the management, previously referred to, may not be understood. Even the foremen's explanations in English may not be clearly seen, so, if the matter can be explained to the foreign-speaking people in their own tongue by their own people, who understand it thoroughly and appreciate it, the response is much more likely to be favorable than otherwise.

Now, as to the results:

In the plant with which the writer is connected, after three campaigns held at intervals of about three months, **RESULTS** between 70% and 75% of the entire force have become regular bank depositors. The plan has recently been extended to other large plants in the city; but these plants have not as yet had an opportunity to exert the fullest measure of effort, nor has the response been as favorable as is expected later. Some of the plants, after opening the plan with a campaign, have left it open without stimulating further large numbers of subscriptions by additional campaigns. These plants are not making as good progress as two of the large plants which are using the campaign method.

In connection with the experience as represented in the table on page 167 covering several plants, it will be seen that the plan gives every indication of being continuously successful. It will be noted that of the number of subscribers those that drop the plan are few, indicating that once a man is brought to a realization of the value of saving he is not easily diverted from the thrift habit. Of the upwards of 5000 subscribers in Worcester only 150, or approximately 3%, have dropped out, for one reason or another. Of course, this does not take into consideration those originally subscribing, who have left the company's employ. It is impossible to find out exactly how many of these retain the

savings practice. In the number of subscribers reported in the following table, no account is, therefore, taken of these.

The tabulated results of the system to date in seven plants in Worcester are as follows:

DATA REFERENCE, WORCESTER (MASS.) SAVINGS PLAN

Plant	Date Starting	No. of Campaigns	No. of Subscribers (Active)	% of Force	No. of Depositors Dropping Out	Average per Man per Week	No. Depositors Who Have Increased Original Deposits
A	Nov., 1919	3—approx. every 3 mos.	2,210	70-75	52	\$2.81	341
B	Mar., 1920	2—approx. every 3 mos.	1,640	29	50	4.06	300
C	July, 1920	Always open	538	14	9	2.50	13
D	May, 1920	Always open	179	17	23	1.51	22
E	Feb., 1920	Always open	160	8	very few	2.66	6
F	Mar., 1920	2—approx. every 6 mos.	70	10	4	2.79	9
G	May, 1920	Always open	64	23	12	1.65	3

The last column of the table, namely, the number of increases, is especially significant as indicating, even more strongly than the column showing the small percentage dropping out, that the men appreciate the opportunity of saving. In Plant A, 341, or upwards of 16%, have voluntarily increased the amount of their weekly deposits. In Plant B, upwards of 20% have voluntarily increased their weekly deposits. In another connection, too, these figures are significant. It was thought at first that the employees might feel, if employers knew what their employees were saving, that this might have an effect on future wages, on steady employment, etc. This argument was met by emphasizing to the men that, in these days, employers prefer

the thrifty employee and that, instead of a savings account working to the disadvantage of an employee, it would much more likely work the other way. The voluntary increase of large numbers of employees after the plan had once been established would seem to prove that there was no feeling on their part that information as to their savings would be improperly used by employers.

The question may be asked as to whether or not foreign-born employees subscribe freely to a savings system of this kind. The experience of Plant A, is, of course, well known to the writer, and we find that, as a general rule, these people support the plan better than do the English-speaking. Inquiry has been made as to the experience of the other concerns in the same direction, and they report, quite generally, that while the foreign-born seem a little hesitant at first, after a few of their countrymen take accounts and the value of saving in this manner is demonstrated to them, the others become very easily interested, and, once interested, they are very glad to remain continuous subscribers.

In general, we think that the Worcester Savings Plan has had a good start. We are well satisfied with the system of having employees save through the local savings banks. We believe, too, that the workmen are thoroughly satisfied with this method. It has not been necessary in inaugurating this system for the manufacturers to offer any bonus or additional interest to the men beyond the regular rate of interest given by the banks. The manufacturers, of course, have the clerical expense of looking after the various accounts, but, realizing the value of thrift to their men, have gladly undertaken this slight expense. The savings banks do not

take care of any of the clerical expense incident to the work at the plants themselves.

In conclusion, it would seem to the writer that the savings banks in any community should get together and, operating through a joint committee, try to interest managers of plants in their locality. Preferably this could be done by a man who would be employed especially for the purpose. Obviously, it is highly desirable to have one approved method in any section for stimulating saving. One plan would get better advertising, would be better known generally, and, therefore, much more effective as to results accomplished than if a number of methods were followed in the various shops. If the interest of employers is obtained and that interest manifested clearly to the employees, and the organization of plant foremen and shop committees thoroughly imbued with the importance of saving and the desirability of a simple savings plan for the employees, there would seem to be no question as to the excellent results to be accomplished.

It is well worth the effort, not only for the welfare of the employees themselves and their families, but for the fact that through the process there are developed better citizens of the community and of the nation.

XIV.

Five Years with an Employees' Savings Plan

An address
delivered before the Eastern Regional Savings Conference,
Savings Bank Division, American Bankers' Association
New York, N. Y.
April 24-25, 1924

Five Years with an Employees' Savings Plan

In the field of industrial relations in industry, we have among employers two extremes in regard to so-called welfare or betterment plans: the one which believes in doing nothing at all, owing to their feeling that such plans are unnecessary, uncalled for, and not appreciated by the working people, and the other which believes in carrying welfare work to such limits as to be burdensome in cost and paternalistic in scope.

The first class, I believe, is relatively small, and may be dismissed from consideration, since among those who are alert to the conditions existing in industry today the consensus of opinion is that such a viewpoint is unenlightened and out of date. The other class, also relatively small in number, likewise may be eliminated from this discussion, since it is contrary to the best principles of American democracy, and repugnant to American workmen, to have welfare measures thrust upon them that savor of paternalism or charity on the part of their employers.

Between these two classes comes that large group of employers which is anxious and eager to do everything possible for the good of its workpeople, without overdoing it. The employer *has* tremendous influence for good with his employees, or should have, if he stands in sympathetic relation with them, and it is little short of shameful if the powerful force of goodwill between employer and employee, with its almost incalculable opportunity for constructive upbuilding, should be allowed to remain inert.

To the employer who is anxious to use his good influence to the fullest extent for the happiness and well-being of his employees, a savings or thrift plan should have a special appeal.

There are some who say that an employer's contact with employees should begin and *end* with the pay envelope. The pay envelope is the all-important feature from the employee's standpoint, and rightly so, but an employer who believes in employee's savings plans doesn't stop having interest in his employee when he hands him his pay envelope. Through the savings plan the employer's interest extends far beyond that—it has as its aim the education and future of the employee's children, the happiness of those in his home, their comfort, and his security and independence in old age.

All this can be done through savings—and isn't it necessary? After all, isn't the most consequential American policy that employers can adopt for the benefit of their employees the development on the latter's part of independence—and the absence of the need of charity?

In spite of the vast amount of wealth in this country today, we see the lack of providence and systematic savings habits most convincingly emphasized
THE NEED FOR SAVINGS PLANS in the increasing effort to introduce State Old Age Pensions. Would it not be better, instead of nullifying the effect, as in the case of the State Old Age Pension, to go back and attack the cause by stimulating and fostering the habit of regular and consistent saving?

The number of old people in the United States without funds presents an anomaly that is difficult to understand. We are the land of plenty, our prosperity is far beyond that of any other section of the world, our growth in wealth in the past half century has been almost beyond calculation.

Our very prosperity makes us lavish, wasteful, extravagant. All thoughtful people must realize, however, that these characteristics of a nation lead to ultimate downfall

and destruction, rather than healthful up-building and growth.

It would seem, therefore, in the light of our wonderful national development, that there is no movement so humanitarian in its interests, so really American in its scope, as the thrift or savings movement. The United States is frequently referred to as the most wasteful nation on earth. In the interest of the perpetuation of a democracy, the liberality of which the world has heretofore never seen, let's eliminate our national vices, waste and extravagance, and set up in their places the virtues of saving and prudence.

As we are a nation of workers, and one where we have in our industrial and business fields generally a very large number of concerns employing from 100 to upwards of 250,000 people per enterprise, it would appear that the opportunities open to us for individual and national development through the extension of industrial savings stimulation are great indeed.

The Employees' Savings Plan of the Crompton & Knowles Loom Works, Worcester, Mass., established in 1919, and therefore now five years old, CROMPTON & KNOWLES was one of the early pioneers LOOM WORKS with what we term the SAVINGS PLAN "Payroll Deduction Method."

While comparatively young, it has nevertheless come through the post-war inflation period, the depression of the deflation interval, and the period of more substantial business improvement, which has followed. It is, therefore, of interest to study its development, its characteristics, and its potentialities as evidenced by its strength and growth under varying conditions.

Perhaps, after five years of experience, the answer that our

plan gives to the questions most frequently raised in connection with employees' savings plans will establish more convincingly than academic argument and vague speculation the vital force of such plans, and the urgent need of their extension in the ranks of working people everywhere.

1. Will the working man support a savings system that can be explained to him and thoroughly understood by him?

He will. In our plant of from 2500 to 3000 employees we have had 60% to 80% of our entire force saving regularly ever since the establishment of the plan in 1919.

2. What characteristics of the plan appeal especially to workpeople?

(a) *Its Simplicity.*

Each week the savings deduction, as agreed upon with the employee, is made from the employee's pay envelope and deposited in the savings bank before the employee receives his pay for the week, a slip being put in his envelope advising him of the fact and also stating the accumulated amount deposited to date.

(b) *Its Flexibility.*

1. If a man wishes to increase his deposit, he simply tells his foreman, who advises the payroll office, and the change is accordingly made. If he wants to reduce the amount, the same simple rule is followed.

2. Deposits may be suspended temporarily in case of unforeseen demands upon the em-

ployee's wages. The same rule applies here as in the increasing or decreasing of deposits.

3. If a man wants to draw a little money out for an emergency he signs an order, the paymaster gives him the money, and he is not even obliged to go to the bank.

(c) *Its Safety.*

All accounts are deposited in the mutual savings banks of the city, whose operations are critically regulated by law. In this way the wage-earner's money, so accumulated, is as safe as it can possibly be made.

(d) *Its Guarantee of Permanence of Principal, and High Rate of Interest Return Consistent with Safety.*

In this plan a dollar is always a dollar. No speculation is involved as in the case of the purchase of stock and securities, and a man's principal is always intact regardless of the condition of business or the stock market. The interest return has been $4\frac{1}{2}\%$ for the past five years, and in the light of considerations just covered, the workingman is satisfied with this return.

3. To what classes of employees does the Savings Plan appeal?

Practically to all classes. The young man or woman saves for a vacation, or trip, for new clothes, for automobiles, etc. The older man or woman for purchasing a home, or better furnishings for a home, for an educational fund for his chil-

dren, for the proverbial "rainy day" or for his independence and security in his old age.

4. Do the foreign-born or alien employees support the Savings Plan?

They do. While somewhat slow in accepting the idea, once they understand the plan they become its enthusiastic supporters. The per cent of aliens saving is higher than that of native-born.

5. Does the plan appeal to what employers would term the better classes of employees, that is, skilled or experienced workmen, those with long service records, etc.?

It does. It appeals least to the floating element, that stays on each job but a short time.

6. Do employees develop and maintain the savings habit through the operation of the plan?

They do. Of upwards of 550 now in our employ who five years ago joined our Savings Plan, 431, or over 80% are still in it.

7. Do employees withdraw their savings after they have accumulated certain amounts?

They do to a certain extent. There have been many withdrawals of from \$200.00 to \$1000.00 and even more to purchase homes, pay off mortgages, or for reinvestment. Probably also these larger sums are deposited in other banks. Some may feel they do not care to have their employers know they are getting prosperous. This is no argument against the Savings Plan since what we are trying to establish among our employees is systematic saving. What they do with their money is no business of ours, and it makes little

difference to the country in what banks the savings are deposited. In the last analysis the capital of the country is being built up, and the savings habit developed. We know, moreover, from many instances in connection with our men that once a man accumulates \$500.00 or \$1000.00 for the first time in his life, he takes on a new viewpoint of things, and one that makes for greater respect for himself and better citizenship. Moreover, once he acquires that new and better outlook, he isn't inclined to part with his hard-earned savings either easily or foolishly.

In spite of business depressions, and all withdrawals, however, the bank deposits accumulation of those in our plant is now upwards of \$200,000.00.

In Savings Plans, as in everything else, the actual result is the real test, and so with our Savings Plan, we know it is a splendid thing in operation because we are cognizant of its accomplishments. We know that of all the activities which we have established among our workmen in the past few years, many at considerable expenditure of money, our employees have shown on many occasions that they consider the Savings Plan the most important service ever established by us in their interests.

The stories of the employees themselves as to what the Savings Plan has done for them and their families would make quite a volume of testimonials replete with heart interest. We know we have started a large number on the road to systematic saving who never had been able to save before. We know that in many cases we have made possible the better educating of our employees' children. We know we have been instrumental in stimulating our

workmen to the better furnishing of homes and to the building of homes. We know that we have enabled them to meet emergencies which previously would have put them under a burden of debt through which they would worry and struggle for long periods.

In every business community throughout the country, the men in the banking business have an unusual opportunity for service to the great rank and file of our people, and to the nation, by stimulating through Employee's Savings Plans, the habit of systematic saving. The work of getting employers interested and keeping them constantly interested (for such interest must be continuous and not temporary or spasmodic) may be difficult and discouraging at first, for prejudice frequently precedes experience and human inertia is usually against starting anything new.

The end to be accomplished, however, is worth all the energy and sacrifice expended in the struggle.

XV.

Do Industrial Savings Plans "Stand Up"?

Article

prepared at the request of the American Bankers' Association

February 24, 1925

Do Industrial Savings Plans "Stand Up"?

The answer to this question is important to industrial executives throughout the country, since Industrial Savings Plans are relatively new, and have yet to stand the test of years of experience. Along this line, therefore, it is of unusual interest to observe the operation of the Crompton & Knowles Loom Works Savings Plan because it has been in operation more than five years and in that time there have been two serious business depressions.

The chart accompanying this article shows graphically the progress of this plan since October, 1920—one year after its establishment, at which time it may be said to have been fairly under way. On account of the industrial depressions in the period since 1920, only four campaigns to obtain new members have been conducted, October, 1920, October, 1921, February, 1923 and February, 1924.

The average deposits and withdrawals by three-month periods are shown on the chart. The average yearly figures (which for the purpose of making ready comparisons are averaged from quarterly periods in each year) are as follows:

	Avg. Deposits per week per quarter	Avg. Withdrawals per week per quarter	Avg. Excess of deposits over withdrawals per week	Avg. per cent of excess of deposits over withdrawals per week
1921	\$2845.00	\$2065.00	\$780.00	38%
1922	2567.00	2103.00	464.00	22%
1923	4170.00	2804.00	1366.00	48%
1924	3922.00	3314.00	608.00	18%

In studying the chart, it should be borne in mind that there are involved therein two variables, first, there have been four campaigns in the period covered, which have had the effect of sharply increasing the number of savers and amount of deposits. In the period covered by the chart the number

of savers varied from 1100 to 1400. Second, there were two periods of industrial depression, which resulted in lessening the number of savers, owing to reduction in working forces, and further, in increasing the withdrawal amounts due to men being laid off and to short time on the part of those retained. For instance, the depression of 1921, the effect of which ran into 1922, is indicated by the reduced percentage of excess deposits over withdrawals in 1922, amounting to 22%. The effect of the depression of 1924 is likewise apparent, and coming so quickly after the previous one, was more severe. The excess of deposits over withdrawals in 1924 amounted to 18%.

It is interesting to note in this connection the quick recovery after depression that was reflected in 1922. The same thing is happening already this year. While the average deposits in 1924 were only 18% in excess of withdrawals, the records for the first two months of this year show deposits 57% more than withdrawals.

Incidentally, this quick recovery after a depression emphasizes one of the good reasons for an Industrial Savings Plan. After a period of dull times, when men have realized the need of money and the advantage of a Savings Plan, is the psychological time to get them started saving again, or saving with increased vigor.

Our observations of the operation of our Savings Plan during its more than five years of existence, in which there

THE PURPOSES OF A SAVINGS PLAN

were two severe business depressions, coming within three years of each other, led us to believe that Industrial Savings Plans fulfil in splendid degree the objects sought, viz. :

1. To develop among employees a regular habit of saving.

2. To stimulate among them a desire for those things that savings make possible—the owning of homes, the better and more attractive furnishing of homes, the purchase of favorable investments, etc.

3. To enable employees by paying cash for their needs to get better values in goods purchased and lower prices.

4. To provide for the proverbial “rainy day” incident to business depressions, sickness, etc.

5. To make saving on the part of employees easy in operation, flexible both as to deposits and withdrawals, and the savings always available at full value.

In connection with our plan, and in the light of the points just named, the following statements regarding our plan in FIVE YEARS’ its upwards of six years of operation will be EXPERIENCE of interest :

1. From November 29, 1919 to February 7, 1925 we have deducted from employees’ wages and deposited for their accounts in the savings banks a total of \$929,437.00.

2. For the past five years an average of 60% of our employees have been saving constantly.

3. Our plan is not designed to stimulate “hoarding.” In the last five years we estimate that at least 20% of those saving have withdrawn sums varying from \$220.00 to \$1,300.00 for the purpose of building homes, paying mortgages, educating children, hospital expenses and other emergencies.

4. In years previous to our Savings Plan we had ample evidence through legal attachments of wages, etc., of the extent to which our employees patronized credit houses. Our records indicate now a minimum of this, especially among those in the Savings Plan. It is well known that

the difference in cash and credit prices is frequently as high as 35% in favor of cash. It is also well known that unfortunately many articles purchased at some credit houses, at least, are of very poor quality for the money paid. Both inflated prices and poor values are thus minimized through a practically operating savings plan.

5. The best argument for a Savings Plan is that it provides for the proverbial "rainy day." In times of depression, when wages are reduced, withdrawals have been heavy, which is just as we should expect it to be. After all, a Savings Plan operates like a storage battery. It is charged up in good times, when the average load is not too heavy, it is thrown back on the line when the need exists, and so when the curve of wages descends rapidly the curve of withdrawals increases sharply to meet the emergency. It is more often in times of depression, when work is scarce, that men get into debt from which it is difficult to emerge for a long time afterward.

In this connection also it should be mentioned that usually in times of business depression, the values of securities and other investments, are lower in the market than in so-called good times. Some of our employees, I feel sure, appreciate that the time to buy securities is when their values are quoted low in the market, and it may be that our heavy withdrawals in times of depression reflect somewhat a keen business sense along these lines on the part of our employees.

6. Our employees in the savings plan have apparently budgeted their running expenses so that savings can be used for unusual expenses, and without requiring credit and going into debt. As employers, we are glad indeed to encourage and stimulate our employees to develop the

habit of saving weekly through our Savings Plan. What could be more beneficial to them than to educate them to get along each week for their regular expenses on something less than they earn, that they may have something laid by for the day of need? We consider the value of our Savings Plan to be reckoned not only in the amount of the balance in the banks to the credit of our people, but in the amounts they have saved and wisely expended, whether it be in better purchasing values through paying cash instead of asking credit, in purchasing homes and home furnishings, in paying off mortgages, in meeting the emergencies due to sickness, misfortune and business depression, in sending children to schools and colleges, or in the purchasing of securities under favorable conditions.

In Savings Plans, as in everything else, the results should be measured in accomplishments. After an experience of upwards of six years, during which we have had ample opportunity to see whether or not our Savings Plan fulfilled its purpose and supplied a need, we are satisfied that it is indeed worth while. We are led to this conclusion by a full appreciation of what it has done and is doing for a very large percentage of our employees. Were any further evidence needed, no testimony could be more eloquent or convincing than that of our employees themselves.

XVI.

Do Savings and Pension Plans Help
in Stabilization of Industry?

An Address

delivered at the Conference on Unemployment, Joint Meeting of
the Associated Industries of Massachusetts and
the Taylor Society, Boston, Mass.

April 30, 1925

Do Savings and Pension Plans Help in Stabilization of Industry?

Secretary Hoover's Committee on the Elimination of Waste, composed of distinguished engineers and others familiar with our industrial conditions, called attention, in its report, to the terrific waste incident to labor turnover and the many ills connected with it. This phase of the problem of waste has indeed a very important relationship with the question of stabilization in industry.

It is a very difficult matter to obtain definite data bearing on the influence of savings and pension plans, either constructively in the general upbuilding of the morale of working forces, with all the good that comes from such a condition, or in the lessening of labor turnover and the incidental losses and disarrangements that accompany shifting working forces.

We are all seeking, however, to have contented workmen, because it is reasonable, I think, to expect from contented people more co-operative and constructive response in meeting and solving our mutual problems in industry.

It is, therefore, from this angle that I am going to discuss the relation of savings and pension plans to the general problem of stabilization in industry.

Do savings and pension plans make for the contentment and happiness of working people? Do they help those that need help the most? Do they appeal to intelligent work-people as representing a sincere and proper effort on the part of their employers? Do they develop on the part of working people a feeling of resentment that these efforts constitute an unwarranted inference that employees cannot take care of themselves?

In answering these questions, the speaker is going to draw on an experience in his own business extending over many years, with both a savings plan and a non-contributory pension plan.

The first question that naturally arises relative to employees' savings plans is, "Is the stimulation of savings plans on the part of employers desirable?" A glance at Government SAVINGS PLAN statistics as to the financial condition of people at death is convincing on this point. Out of every 100 men who die, only 18 ever leave anything for their families, and of the 82 that leave their families without funds, 45 of their widows have to go to work. In any community, if any further evidence is needed on this point, it is only necessary to see the number without funds, or practically so, in the almshouses, homes for the aged, those assisted by the overseers of the poor, to say nothing of the tremendous number that have to be looked after by their relatives.

Our savings plan is a simple one. It merely involves the deduction from the employee's weekly wage of a certain amount agreed upon, and depositing the same in one of the five savings banks of the city, the employee having previously specified the particular bank in which his money is to be deposited.

The plan, now probably the oldest of its type in the country, has been operating upwards of six years and at no time since shortly after its establishment, have we had less than 60% of our employees subscribing to it. It has weathered two depressions and now upwards of 80% of our employees are participants.

Now, as to the practical accomplishments of a savings plan:

1. In the first place, it makes people save who never saved before. We have started a great many on the road to saving for the first time. As it is not easy to save money, some people need stimulation to get them started, and an employee's savings plan provides this.

2. A savings plan whereby a certain amount of money is deducted regularly from an employee's pay envelope, means that an employee must budget his weekly expenses so that his current expenditures are less than his pay. It, therefore, is a very practical aid to a budget program in family expenses, which in itself, is a very desirable thing.

3. It encourages home building. We have had a number of our savers buy homes, pay off mortgages, etc., out of their savings.

4. It has made for better furnishing of homes, with the advantages that this contributes to the better bringing up of families.

5. It has enabled some of our workmen to send their children through high school and college and to give them education in other lines which otherwise would have been impossible.

6. It has provided a means of meeting many emergencies such as hospital bills, funeral expenses, and loss of pay due to illness, short time, etc.

7. It provides cash with which to buy clothing and other necessities and lessens the need of employees patronizing credit and loan houses.

8. It has made for fewer attachments of workmen's wages by trustee writs, and for workmen being hounded less by creditors, than would otherwise have been the case.

One of the most common and annoying worries of humanity is over financial matters. A man who has a heavy burden of debt hanging over him constantly and who is being dunned on every side, cannot have a frame of mind that is going to make for a good outlook on life, or for contentment at his work. If the burden of worry is removed from the workman's mind by a savings plan, surely that plan is making a very direct contribution to the workman's morale and I think it goes also without saying, that a cheerful unharassed workman produces more work and better work than one who is not so blessed.

Incidentally, through a savings plan the employer is making more capitalists among the wage earners and I think all must feel that this is a desirable end. The more the wealth of the country is distributed, the less socialistic will be the tendency among the masses of our people.

We do not know of anything that we have done for our employees that they appreciate more than the savings plan. A short time ago our Activities Committee, composed of employees, made a quiet canvass, for their own information, among a large number of representative employees to determine what betterment measures being conducted by the Company were appreciated, and the result was overwhelmingly in favor of the savings plan.

And now as to our Pension Plan. There has always been a great difference of opinion on the subject of whether or not
PENSION PLAN employers should establish pension plans covering their employees. It is contended by many that such plans border on the socialistic, that they tend to make people less provident in the fruitful years of life, that at best they savor of paternalism and, furthermore, that they are not appreciated by working people.

It is true that pension plans seem to be an outgrowth of what may be termed an old world socialistic policy that has taken the form of plans prescribed and regulated by Government legislation. Indeed there has been a growing tendency for old age government pensions in this country, as is reflected annually in various bills introduced in the State legislatures.

However, the pension idea has been growing steadily in this country, and now many of our leading industries have established pensions for the benefit of superannuated employees, notably,

- The United States Steel Corporation
- Newport News Shipbuilding & Dry Dock Co.
- Otis Elevator Company
- General Electric Company
- B. F. Goodrich Rubber Company
- Standard Oil Company
- Studebaker Corporation
- Westinghouse Electric & Mfg. Co.
- Colorado Fuel & Iron Company
- International Harvester Company
- The Pullman Company
- Swift & Company
- Armour & Company
- United States Rubber Company
- E. I. du Pont de Nemours & Company

It is conceded that in many businesses a pension plan would be of doubtful value—in a new or young concern, for instance. Obviously, such a plan appeals but little to the young man who must wait until he is 65 before eligible for retirement or even to the older man who must put in a minimum of 25 years of continuous service as a condition to eligibility.

However, in a concern such as our own, I am convinced that a pension plan is not only an excellent thing from a humanitarian standpoint, but a measure of great com-

mercial value to the employer. For us, I believe, it makes for efficiency, reduces labor turnover and waste.

One of the greatest worries of a workman is the thought of the day when as an old man he may be turned out on the street. Surely, if this nightmare is removed through a realization that his employer's pension plan will take care of him, when he must lay down his tools through age or incapacity, there must be many years when the contentment that this satisfaction brings, will continue to be reflected in the quality and the quantity of the work of his head and hand and heart. And the argument that is frequently offered that the sureness of a pension has the opposite effect and slows him down is not substantiated in practice, as far as our experience goes. Especially will this be true if the pension plan does not contemplate furnishing to the pensioner an amount which by itself will be entirely sufficient for his needs after retirement.

A pension plan, in my judgment, should be considered a *supplement* to savings and if workmen are made to understand this, a pension plan will not tend to develop improvidence instead of thrift. At the Loom Works we do not find that because we have a pension plan there is any tendency on the part of our older workmen to ignore our savings plan. As a matter of fact, our longer service men are very distinctly better savers than those of shorter service.

Facts are always interesting and convincing evidence in a matter of this kind. Of the men pensioned in the last five years—33, 21 were saving, or about 64%, when they went on the pension rolls.

Furthermore, of some 532 men with ten years' service or more now in our employ, 409, or about 77%, are participants in our savings plan at the present time.

We see another great practical advantage in our pension plan. We have a business of great and complicated variety, where experience counts heavily, especially in the case of foremen and supervisors generally, as well as specialized workmen. Among this class of high-grade and experienced specialists we have a very small turnover. During the war and in the business boom after the war when there was an extraordinary demand for men of this type, our men remained with us, and we know that our pension plan was not inconsequential in making them content to remain. Along this line the following table covering unavoidable exits in our Worcester plant will be of interest.

EXITS

	Over 5 yrs. Service	Over 10 yrs. Service	Over 15 yrs. Service	Over 20 yrs. Service	Over 25 yrs. Service	Over 30 yrs. Service	Total
1922	29	2	0	1	0	0	32
1923	37	8	2	1	1	1	50
1924	35	2	0	0	1	0	38
Total	101	12	2	2	2	1	120

At the Worcester plant we have at the present time 1259 employees with five years' service or more. The number of employees of the various groups and the exit percentages of these groups are as follows:

	No. Employees	Total Exits 1922-1923-1924	% Exit per Year per Group
Over 5 years	727	101	4.6
Over 10 years	146	12	2.7
Over 15 years	121	2	.53
Over 20 years	77	2	.87
Over 25 years	72	2	.92
Over 30 years	116	1	.29
Total	1259	120	3.18%

Thus, in this great group of experienced men, we have a turnover of about 3% a year in the past three years. And if the men of five years' service only are taken from this list,

the turnover figures of the remainder are more remarkable. Out of 532 men at this plant having ten years' experience or more we have lost only nineteen in three years, through what we call avoidable exits—an average of 1.2 % per year.

Of course, it is not fair to conclude that our good results along this line are due entirely to our pension plan. It must be conceded that turnover takes place most heavily in most concerns among those men who have less than five years of service. It must likewise be conceded that older men do not change jobs as readily as younger men for the simple reason that it is more difficult for older men to get jobs. However, I feel that an employer who shows to his workmen that he has a deep appreciation of long, loyal, and efficient service on their part, and who through a pension plan is providing them an opportunity, by devoted service, to earn a measure of independence in their declining days, undoubtedly builds a reputation for his plant as "a good place to work" that affects the younger employees as well.

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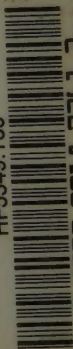
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